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Designing K-12th technology training : technology mentoring program

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Designing K-12th technology training : technology mentoring program

Abstract

The purpose of this project was to provide a curriculum and framework for a technology-mentoring program at Dike-New Hartford Community School District, a rural school district in Eastern Iowa. Taking a different approach to technology training, this program was designed to help remove barriers that keep teachers from integrating technology throughout their content area. These proactive steps included:

- Creating mentoring groups to provide long-term support for technology integration.
- Providing teachers with personal laptops and current software.
- Providing paid technology training outside of school hours.
- Introducing easy-to-use technology tools that can be quickly integrated.

The goal of this project was to create a subculture of technology use throughout the school district, starting with building-level technology leaders. Using the Iowa Professional Development Model as a guide, this mentoring program included ongoing support to help narrow the gap between technology training and actual classroom integration.

Designing K-12th Technology Training:
Technology Mentoring Program

A Graduate Project
Submitted to the
Division of Instructional Technology
Department of Curriculum and Instruction
In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts
UNIVERSITY OF NORTHERN IOWA

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ABSTRACT

The purpose of this project was to provide a curriculum and framework for a technology-mentoring program at Dike-New Hartford Community School District, a rural school district in Eastern Iowa. Taking a different approach to technology training, this program was designed to help remove barriers that keep teachers from integrating technology throughout their content area. These proactive steps included:

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TABLE OF CONTENTS

INTRODUCTION.....	1
LITERATURE REVIEW.....	3
LITERATURE REVIEW METHODOLOGY.....	17
THE PROJECT.....	19
METHODOLOGY OF PROJECT.....	21
Management.....	23
Design.....	24
Development.....	28
Utilization.....	29
Evaluation.....	30
ANALYSIS AND RECOMMENDATIONS.....	34
CONCLUSION.....	39
REFERENCES.....	41
APPENDIX.....	42
Blogging Lesson Plan.....	A
Digital Imaging.....	B
Google Sites Lesson Plan.....	C
Wikispaces Lesson Plan.....	D
SEDTA Survey Results.....	E
Individual Career Development Plan.....	F
Meet your New MacBook.....	H
Professional Development Schedule.....	I

INTRODUCTION

Why do some teachers enjoy using technology while others fear new teaching innovations? What is the most beneficial setting for technology training for teachers? How can a technology curriculum be presented to help insure the time spent on training will result in students using and learning more effectively using technology? This curriculum and project is the culmination of work both in theory and in specific technology skills gained from the Instructional Technology Masters Degree Program at the University of Northern Iowa along with the author's everyday experience gained from using educational technology. Combining sound instructional design, current educational technology concepts, and research-based professional development training, this program was designed to help teachers make real changes in their daily instruction. Furthermore, this program helped facilitate changes in teachers' personal and professional beliefs about technology and increased the overall rigor and relevance of their subjects.

The goal of the mentoring program was to help teachers develop technology skills to create a class website. Then, during additional training, mentees would develop skills, using Web 2.0 tools, to include in their website and throughout their daily teaching. Teachers would track technology use with monthly technology integration logs as well as monthly reflections on personal technology growth and lessons learned. Mentoring would be available throughout the school year to help participating teachers integrate technology with their own class, providing timely support when trying new teaching techniques (Glazer, 2005.)

The literature reviewed in this paper will support the overall design and framework of this mentoring program. Teachers learn technology best when working

with colleagues in small groups. Even though one-day teacher training has been the norm, this format does not connect technology skills to long-term teaching change (Glazer & Hannafin, 2008). This mentoring program is designed to help overcome first-order barriers and provide positive experiences using technology that helps each mentee move towards effective integration. Teachers are not unlike their students. They need sound and meaningful lessons, presented in a reasonable timeframe, and time to collaborate and share learned ideas with instructors and classmates. This program will help bridge the gap between theory and practice within the area of technology integration.

LITERATURE REVIEW

The goal of the mentoring program was to help remove first-order barriers while slowly changing second-order barriers. Ertmer explains that first-order barriers deal with the accessibility of technology resources as well as sufficient training to support technology integration. Second-order barriers deal with changing underlying beliefs about the value of technology as a teaching tool (Ertmer, 1999). To insure that technology training results in long-term teaching change, a training program must include the removal of first-order barriers while providing positive experiences using technology that can lead to changes in second-order barriers. The research conducted for this research project identifies the following goals that should be considered when designing technology training. The literature reviewed states that while success can only be measured in overall student learning, placing the following goals as the focus of any technology-training program can help overcome the shortfalls of one-shot training sessions.

Goals of the Program:

- Access and Training: Teachers need access to current forms of technology and adequate training.
- Training by Peers: Technology training is effective when presented and shared by colleagues.
- Administrative Support: Teachers need administrative support in the use and integration of all forms of educational technology. Specifically, financial compensation for time spent learning technology after school hours.

- Changing Teacher Beliefs: Technology training must overcome not only unknown skills, but also personal beliefs about the value and effectiveness of technology as a teaching tool.
- Time to Create and Collaborate: Teachers need time to learn, create, collaborate, and share new ideas and skills in educational technology.

Access and Training

It seems logical that if one provides computers for teachers, they will use them to help their students learn, but unfortunately that is not always the case. Having teachers integrate technology is much more than providing equipment and software. "In some places, eager planners have 'put the cart before the horse' - emphasizing the purchase and installation of equipment without providing sufficient funding for staff learning" (McKenzie, 2000, p. 1).

While many obstacles keep teachers from integrating technology, Ertmer categorizes these barriers into first-order barriers and second-order barriers (2005). First-order barriers are obstacles dealing with access and training, supplying teachers with the proper technology hardware and software that can be quickly integrated into their instruction. First-order barriers also include a lack of professional development required to training staff on the basic uses and integration of these new technologies. Similar to the ideas expressed in Healy's book, *Failure to Connect*, (1999), teachers need access, technical skills, and training in the use of the hardware and software (Ertmer, 2005). These barriers are obstacles of time, accessibility, and personal skills that need to be addressed if teachers are effectively going to integrate technology in the future.

While first-order barriers can be addressed with the purchase of equipment and technology training, second-order barriers are more difficult to overcome because they deal with underlying personal feelings about the effectiveness of technology as a teaching tool (Ertmer, 2005). Ertmer explains that many teachers use tried and true teaching methods because they believe that they are the most effective methods for their instructional goal, not considering that technology can enhance, expand, or increase student understanding.

While Ertmer identifies technology training as a first-order barrier, she includes that well designed technology professional development can help teachers develop changes in second-order barriers. Providing teachers with meaningful and positive initial exposure to technology integration can result in the change in personal belief about the value of technology as a teaching tool.

Beliefs are created through a process of enculturation and social construction; they can be shaped through an intense experience, or a series of events. Change in teachers' beliefs may follow rather than precede teaching practices, and by helping teachers adopt new practices that are successful, the beliefs associated with these practices may also change (Ertmer & Park, 2007-2008).

One innovation that has greatly impacted first-order barriers is the invention of the laptop computer. With the recent addition of more and more mobile forms of technology and wireless networks, the use of laptop computers can help connect teachers to their students. While some teachers use technology daily, some only use it when at school. Providing a teacher with a mobile laptop and encouraging both personal and professional use helps technology move from home use to classroom. A study by

Windschitl and Sahl described the availability of laptops as the *catalyst* to student-centered learning and the overall increase of technology integration (Windschitl & Sahl, 2002). While providing laptops to teachers seems to remove the students' needs from the equation, Windschitl and Sahl found that by giving teachers laptops, they slowly integrated technology into their teaching as their personal skills developed. By giving teachers a laptop they could use technology at home and at school, building confidence and knowledge at their own pace (Windschitl & Sahl, 2002).

Supplying teachers with a combination of equipment and training can have dramatic effects according to Yost (2007). Yost presented a progressive strategy to provide teachers technology resources. Taking a total of three years of mentoring and providing training, novice technology users were provided tools that helped remove first-order barriers and supported a natural progression towards the integration of technology and constructivism. This progression first included the introduction of laptops to each teacher. Next, teachers were provided LCD projectors, allow each teacher to share class content with their students. Finally, teachers slowly moved to more student-centered instruction because of these newly acquired technology-based skills and resources (Yost, 2007).

The connection between first and second-order barriers seems to be circular. While teachers require the hardware, software, and training, they cannot fully understand the value technology holds for education without the basic understanding of technology and its applications. Ertmer states:

Ultimately, the decision regarding whether and how to use technology for instruction rests on the shoulders of the classroom teacher. If educators are to achieve fundamental,

or second-order, changes in classroom teaching practices, we need to examine teachers themselves and the beliefs they hold about teaching, learning, and technology.

(Ertmer, 2005, p. 249)

This connection between possessing and integrating new teaching tools with a long-term change in pedagogical beliefs demonstrates the importance of overcoming first-order barriers prior to changes in teaching practices (Ertmer & Parks, 2007-2008).

Training by Peers

While most school districts rely on outside agencies and technology experts for training and supporting teachers, it is becoming common for districts to use their own staff and technology experts. These experts can design, present, and provide ongoing support to their colleagues (Hall, Fisher, Musanti, & Halquist, 2002). Using technology leaders as mentors and professional development presenters has many benefits. Teachers know the needs, challenges, and financial concerns facing their school district. While outside presenters might have a deeper understanding of technology content, they lack the daily connection with teachers to provide the long-term and daily support to transfer new technology skills to classroom integration (Hall et al., 2002).

Glazer supported this argument by developing a mentoring program in 2007. Glazer documented the struggle of a first-year teacher and her effort to integrate technology. Glazer found that one-on-one mentoring or *collaborative apprenticeship* could dramatically increase teachers' skills and technology integration. Glazer defines a collaborative apprenticeship as providing support to developing teachers by trained colleagues who have advanced skills in technology integration (Glazer, 2008). Glazer states:

Less experienced teachers were supported by experienced mentor teachers and were provided collaborative time to discuss school policies, daily routines, lesson design, and technology integration. These apprenticeships focused on refining skills and strategies, developing relationships, and supporting individual needs. By sharing a common forty-five minute planning period, mentors and apprentices were able to collaborate on best practice in technology integration. (2008, p. 43)

As a specific example of technology training in math education, Glazer designed, developed, and incorporated instructional design principles throughout the mentorship of a first-year math and science teacher. Glazer identified three major areas of focus: confidence, autonomy, and needs awareness (Glazer, 2004). His teacher/subject developed confidence in her abilities, which resulted in a basic desire to repeat something that was successful. Furthermore, she developed a sense of autonomy that allowed her to develop lessons independently after the instructional design skills were established. Finally, this individual teacher developed a sense of her own personal needs when designing integrated lessons. She discovered that “to continue to develop integration skills a teacher must also develop their own personal knowledge and skills using new forms of technology” (2004, p. 45).

Furthermore, Glazer recognized that traditional technology training falls short because it does not provide additional support to convert theory and skills into classroom practice. Glazer noted that a cognitive apprenticeship program could help support teachers until they reached a comfort level of independence and had the skills to continue on their own (Glazer, 2004).

Administrative Support

While state mandates require teachers to integrate and use technology, to help insure long-term use, building administration can help hold the classroom teacher accountable. The role of administration is a critical component in the decision to use technology in the classroom. Building principals are the final decision makers about the hardware and software purchased for their building. They have a strong influence on time allotted and scheduled for technology training. Most importantly, a building principal sets the tone and atmosphere for learning. If a principal uses technology and values its impact on students, more than likely, technology will be an important teaching and learning tool in his/her school (Dawson & Rakes, 2003).

In 2003, Dawson and Rakes found a connection between technology training for principals and the integration of technology within their building. They found that if principals were given quality technology training, there was a higher rate of technology integration in their buildings. But like teachers, the training sessions needed to be more than one-time training sessions. Principals benefited from long-term training sessions that first focused on personal skills and slowly developed into a personal belief about the importance of technology use throughout their schools. Dawson and Rakes found when principals became provident using technology they were more likely to act as the technology leaders in their own individual buildings. These administrators can then promoting the purchase of equipment and including technology training during professional development (Dawson & Rakes, 2003).

If building principals are truly leaders of technology within the culture of their buildings, then principals need just as much training using technology as teachers. In

order to further their analysis, Dawson and Rakes used the *School Technology and Readiness (Star) Chart Assessment*. This online assessment tool was used to measure the opinions of principals as well as their personal and building-level integration of technology. After collecting the data, Dawson and Rakes then disaggregated the data by age, sex, experience, and grade level to identify if there was any correlation between principal characteristics, principal technology training, and technology integration. The first question posed was to determine if principals were receiving technology training similar to their teachers. Dawson and Rakes found that similar to teachers, one third of principals felt that they were not receiving adequate technology training. One-third of the principals in the survey shared the same frustrations concerning first and second-order barriers. Dawson and Rakes next investigated whether the age of the principal determined their views and use of technology. Their findings showed that there was a direct correlation between age and technology use. Dawson and Rakes found that younger teachers were more likely to use technology and promote its use throughout the school district. The third question that Dawson and Rakes explored was the connection between school size, grade level, and technology integration. They found that there was no connection between grade levels and the technology used. They also determined that school district or individual school size had no impact on technology integration (Dawson & Rakes, 2003). Finally, Dawson and Rakes researched whether the amount of technology training influenced the amount of technology used in a specific school. They discovered that principals who received at least fifty-one hours of training per year promoted technology use among their teachers (Dawson & Rakes, 2003).

The connection between administrative support and building level technology use goes beyond just supplying funding and taking care of first-order needs, but like teachers, principals who have personal expertise and experience using technology will in turn promote its use in their buildings. Professional development training should include all staff, teachers and administration. Teachers should work closely with district administrators to help facilitate their support of the integration of technology (Dawson & Rakes, 2003).

Changing Teacher Beliefs

While first-order barriers can definitely discourage the integration of technology, making long-term changes to a teacher's personal teaching beliefs is a more challenging obstacle to overcome. Many teachers rely on tried and true instructional methods that were modeled to them during their own education, while many teachers follow curriculum and methods set by textbook publishers or district curriculum writers that may or may not include technology (McKenzie, 2001). Why do some teachers include technology while others do not?

Fang explores "the recurring themes of 'consistency' vs. 'inconsistency' between teacher beliefs and practices" (Fang, 1996, p. 47). Fang describes the many different variables that affect teachers' ideals about instructional practices.

The issue is not whether teachers should possess theoretical knowledge...they should. Instead, the issue is how teachers can apply theoretical knowledge in real classrooms where the relationship between theory and practice is complex and where numerous constraints and pressure influence teacher thinking (Fang, 1996).

If technology integration is to truly happen, teachers must view technology as a teaching tool that can help students discover knowledge. When a teacher creates a lesson, the decision to use technology rather than a traditional paper-and-pencil lesson takes a deep understanding of the value of technology. Technology training must include personal skill development, but also include examples of classroom use, demonstrations of the flexibility of technology as a teaching tool, and positive outcomes technology can have on student growth (Fang, 1996).

Technology integration leads to more student-centered learning. Project-based learning is one instructional strategy that can integrate technology effectively and provide students with an opportunity to explore class materials on their own terms, creating personal meaning and value (Fang, 1996).

Park and Ertmer examined technology-based projects and how they impact student learning. They questioned whether the early exposure to project-based learning would affect the integration of technology among first year teachers. Looking at forty-eight first-year teachers, Park and Ertmer found that increased training in project-based instruction did not increase technology integration; however, it did alter the focus of a teacher's instruction. Instead of a teacher-centered learning environment, teachers exposed to project-based learning slowly became more student-centered instructors (Park & Ertmer, 2007-2008). As Ertmer (2005) summarized from other studies:

Beliefs are created through a process of enculturation and social construction; they can be shaped through an intense experience, or a series of events. Change in teachers' beliefs may follow rather than precede teaching practices, and by

helping teachers adopt new practices that are successful, the beliefs associated with these practices may also change. (2007-2008, p. 249)

Technology training must include a series of experiences that help teachers adopt successful and valuable practices. These experiences can include technology, but only as a tool, not replacing the topic or lesson. Technology integration will happen when a teacher views technology as the most effective and flexible tool for teaching, replacing a textbook or lecture, providing each student a unique opportunity to learn (Glazer, 2004).

Time to Create and Collaborate

There is no more important commodity for a classroom teacher than time. Each day is demanding and it takes a flexible and caring teacher to manage each student's needs. When a teacher combines technology on top of students' needs and the daily routine of teaching, it can become overwhelming. Technology training must take time into consideration. Like students, teachers grasp information at different rates, and technology training needs to be designed to provide teachers enough time to explore, learn, and create a plan for integration if technology training is to be effective (McKenzie, 2001).

McKenzie (2001) summarizes a well-rounded view of the challenges facing technology integration. Supported by Healy, McKenzie offers an overview of the challenges facing teaching adult learners. He shares ideas about the short falls of traditional professional development and changes that can help keep the focus on student learning, not just focusing on learning a new piece of software:

The reining model sometimes adds insult to injury by rushing the learner through dozens of skills in too short a time period with insufficient guided

practice to reach a comfortable level of familiarity and skills. If the trainer rushes the learners, there is great danger that the anxiety, concern and latent resistance of many of the more reluctant learners will be aggravated (McKenzie, 2001, p. 4).

McKenzie presents several changes that can be made to technology training that can dramatically change teachers' chances for success. First, developing a strong and well-designed professional development plan sets a sense of focus. Additionally, stating clear expectations and objectives with support from the school district's board and teacher organization that will provide structure to all professional development. Study groups and curriculum teams force teachers to form supportive groups when learning new pieces of technology. Combining experienced teachers with novice teachers provides support especially if they share similar curriculum, teaching schedules, and accountability requirements. Keeping the focus on student learning, instead of learning a new piece of software keeps everyone on the same page while exploring a new way to teach (McKenzie, 2001).

Collaboration is also an important part of a well-designed technology-training program. Working closely with a trusted colleague can make learning technology easier and less stressful, especially if older teachers view new pieces of technology as obstacles rather than educational tools (Glazer, 2004.)

Berry (2007) introduces the notion of peer mentoring and collaboration when he shares his ideas about *Coaching Up*. Berry supports the use of media specialists as important faculty members who can provide timely technology support to novice teachers. Berry provides a short dialogue of the role that building librarians play in

technology integration. In many buildings, librarians have been asked to be the technology leaders and the connection between traditional teaching and the modern use of technology-based instruction (Berry, 2007).

Moreover, Berry provides a dialogue of his personal frustration and the pressure to use new forms of technology that are complex and difficult to integrate. He provides a glimpse into his relationship with his building librarian and how his colleague has made the transition to technology easier and less stressful.

Of course, I'm reluctant to see the old ways replaced, but, luckily, I'm blessed to be working with exceptional colleagues in the current generation. Patiently, with perseverance and dedication to the new world they are creating, they are bringing me along. (Berry, 2007, p. 10)

In many ways, Berry echoes the ideas shared by Glazer. Real integration takes place when colleagues support colleagues, sharing talents and skills. As Berry documents, collaboration can take many forms, either face-to-face or through the use of technology. Effective technology training can include a tele-collaborative component that would provide support to developing teachers through the use of reflective blogs, online chatting, or through e-mail. The real power of technology is the flexibility and ease of electronic communication. With the goal of technology training to increase personal skills and increase student and teacher use, the daily use of technology only increases personal skills and therefore daily integration (Glazer, 2004).

The underlying purpose of technology training is to integrate technology within the daily flow of a classroom. Teachers enter the profession with mixed and diverse backgrounds; some using technology in their everyday activities, while others move

through life without using computer-based technology. With new forms of technology entering all areas of our world, learning and the educational process was and will continue to be impacted. Designing technology training for teachers should take into consideration each teacher's personal skills and technology backgrounds while providing them a supportive and collaborative environment that will help encourage learning. Technology is and can be a powerful teaching and learning tool, but it can be overwhelming if teachers are forced to learn technology, find funding to purchase technology, and become integration specialists. Technology leaders in each school building can work to make the transition to technology-based learning a *shared* experience; a collaborative effort between teaching professionals (Glazer, 2004).

LITERATURE REVIEW METHODOLOGY

The primary criteria in selecting resources for this project involved the connections between educational philosophy and practical classroom applications. In the author's opinion, the disconnection between high-level educational research and the daily routine of a classroom teacher is a major obstacle for technology integration. Professional development which bridges the gap between teaching skills and philosophies, and finding sources that move beyond *suggestions for change* was the primary criteria for resource selection. Recent articles that described real world examples of effective technology integrations supported by solid educational research were preferred.

Throughout each selected article, an analysis was given and ideas were presented that supported sound research for instructional design integration. Several articles suggested changes to the design and development of teacher training. Although some reviewed articles were sound in theory, only peer-reviewed and articles that demonstrated sound use of the instructional domains were used. In addition, because of the quickly changing world of technology, only articles that presented recent findings and included newer forms of relevant technology were accepted as resources.

Due to the revolving and continually evolving field of instructional technology the author used several web-based journals and publications, although electronic databases were the primary gathering tool. Additionally, the use of Expanded Academic ASAP, Academic Search Elite (EBSCO), JSTOR (The Scholarly Journal Archive), Readers' Guide Abstracts (Silver Platter), and Project Muse, were the primary electronic resources.

The descriptors used to isolate search results revolved around the initial search of *technology integration*. From there, several articles were reviewed to isolate additional search descriptors including, *teaching training*, *professional development*, *technology training*, and *peer coaching*. During this research, the topic of *peer coaching* became a secondary focus and gave a vision for creating a technology-mentoring program.

THE PROJECT

This project involved creating a technology-mentoring program that would provide teachers with the support, training, and tools that would help ensure the integration of technology. As identified earlier, providing teachers with new technology tools, timely support when learning new technologies, and compensating teachers for their hard work and time are critical parts of technology training.

Early in the school year, the author used a one-hour presentation to share Google Sites, Wikispaces, Digital Imaging, and Blogging with faculty in each of the buildings in his district. The initial intent was to have mentees select one of the topics and have them develop a class website using Google Sites, Wikispaces, or Blogger. This hour-long presentation included the following technology tools:

1. *Blogging*: Introduction to blogging and how it could be used to support student writing in the classroom (see Appendix A).
2. *Digital Imaging*: Introduction to digital photography and digital video recording. Teachers were provided information about the many different ways digital images could be used to motivate students, share class projects, and support their teaching (see Appendix B).
3. *Google Sites*: Introduction to class website design and the usefulness of Google Sites for the quick, free, and accessible creation of a class website (see Appendix C).
4. *Wikispaces*: Similar to Google Sites, Wikispaces is a free and easy way to create a class website (see Appendix D).

The author's administrators were extremely impressed with the presentation, but they wanted the district's staff to create websites using one uniform program. Google Sites was selected because of its ease of use, cost, and accessibility. The author was asked to work closely with his district's technology committee and develop the initial work with Google Sites into a district technology-mentoring program. The goal was to train a small group of teachers/mentors in Google Sites and then have these technology experts share their skills with the whole district.

A group of four teachers were enrolled in a technology program at the local AEA at that time and they were also interested in learning Google Sites. Working as a collective group, fourteen hours of technology training was designed for all district teachers using the *Iowa Professional Development Model* (Iowa Department of Education, 2009) and Instructional Design principles (Dick, Carey, & Carey, 2009). To help insure long-term integration, additional professional development time was set aside to continue technology training throughout the school year.

Since the initial project started the conversation about changing the professional development focus to technology training, the author's experience in instructional design and technology training was critical for the creation of the this mentoring program. During the research it was evident that overcoming first-order barriers needed to be addressed.

Solutions for Overcoming First-Order Barriers

As defined by Ertmer (1999), first-order barriers are the obstacles that teachers face when integrating technology with limited training and access. Listed are solutions to

help overcome first-order barriers that were addressed in the design of this mentoring program.

- Provide teachers with current and new technology tools.
- Provide teachers with effective training using new tools.
- Provide teachers time and support to develop technology skills.
- Provide teachers with compensation for time spent learning new skills.
- Provide teachers with continuing support of professional development for technology integration.

The Dike-New Hartford School District took some dramatic steps to remove these barriers. First, they purchased laptop computers for all staff members. Individual teacher technology skills were not a limiting factor when deciding who received a laptop. It was important that all teachers received the same technology tools. Teachers were given a choice about whether they received a Mac laptop or a Windows-based computer, making sure the individual user preference was met. Each laptop was loaded with a current version of Microsoft Office and the standard utilities that are included by Apple on each Mac computer and provided by Dell on each PC. These software tools would become the focus of future technology training session so that teachers could quickly adapt these software applications to their class website.

Next, professional development funding was set aside to pay teachers for their time spent learning new forms of technology. These training sessions were after-contract hours and it was important to show all teachers that this district values their personal time and that additional work would not go unpaid or unnoticed.

Finally, all teachers were provided training in using their new laptops and in developing a class website. The single-session training model was replaced with small group training where mentees could ask questions and work in small groups with a knowledgeable and experienced technology mentor. Each mentee was given time to create and collaborate at their own rate, with prompt help from experienced mentors answering questions in a timely manner.

Overcoming Second Order Barriers

Ertmer (1999) describes second-order barriers as the underlying personal beliefs about the effectiveness of technology as a teacher tool. While some teachers can quickly make the transition to a new way of teaching, some struggle when using and learning new technologies and teaching methods. The goal of this mentoring program was to help teachers develop computer skills that can slowly blossom into new ways of teaching and learning. Each mentee would be required to create a basic class website that could later evolve to include blogging, digital imaging, as well as student Wikispaces and websites.

The Dike-New Hartford School District administration agreed that providing parents and students with online class information was an important step to technology integration. By having teachers create class websites using Google Sites, they envisioned that these class websites would slowly change personal beliefs about the importance that technology plays in the day-to-day instruction of their students and help create a subculture of technology use.

A Different Approach

This program was different from single-session technology training because of the long-term commitment and using Iowa Professional Development funding to provide

teachers with financial incentives to participate. Each mentee was not asked to do additional work, but to spend time learning new teaching skills, while being compensated for their time and effort.

This mentoring program was also different from single-session training sessions because of the collaborative work between colleagues. Using outside agencies to present professional development leaves each teacher alone, by themselves, trying to integrate technology without ongoing support. This program put in place building technology leaders who provided timely support to their colleagues.

METHODOLOGY OF THE PROJECT

Management

Since my initial presentation started the conversation about technology training as a possible professional development focus, it was my responsibility to lead the development of this mentoring program. While other members of the technology committee have experience using technology in their own classes, I was the only one who had developed teacher training as well as had experience using the Instructional Design Model. Even though this was a collaborative effort between colleagues, most of the instructional design and actual presentation of material was my responsibility.

I am also a member of two important committees. First, I am a member of the technology committee that was responsible for creating the curriculum for this mentoring program. It was my responsibility to ensure that it followed sound instructional strategies that were supported by my research. My duties also included membership in the School Improvement Advisor Committee, which creates my district's Comprehensive School Improvement Plan (CSIP). This plan identifies my district's five-year goals for student achievement. Currently, technology integration to support student learning in math, science, and language arts is one of the district's goals. It will be my responsibility to promote technology integration and make sure that ongoing funds and allocated for this mentoring program and included in future district CSIPs.

I have also been asked to help develop a district technology plan for the next five years. While this document is an on-going process, a formal technology plan has not existed in the past. Within this technology plan, it will be important to include ongoing technology professional development to support this mentoring program. While a formal

technology plan should be a document that supports professional development, this mentoring program will provide an example for future technology training that can help provide support for the creation of a formal technology plan.

Design

As required by the district administration, this mentoring program has to be designed to follow the basic guidelines of the Iowa Professional Development Model. This model helps to focus professional development around student achievement. In this case, the goal of the program was to increase student achievement in math, science, and language arts through the integration of technology.

Using the Iowa Professional Development Model

The Dike-New Hartford Community School District identified technology integration as one of the district's goals for the 2008-2009 school year. As identified in the district's Comprehensive School Improvement Plan, the district's goal to improve student achievement in math, science, and language arts was the primary reason for the creation of the technology mentor program. Dike-New Harford excels at providing students with hardware and technology resources, but the overall technology integration in all content areas was identified as an area of concern during the 2008 site visit from the Iowa Department of Education. To address this weakness, the district administration decided to use teacher quality funds provided by the State of Iowa to pay teachers to learn new technology and effective ways to integrate these technologies. By using the Iowa Professional Development Model as a guide, the district's technology committee was given the responsibility to design a program to teach technology skills, provide ongoing support, and hold the teachers accountable to using technology within their classrooms.

Since this project included the using state provided professional development funds, using the Iowa Professional Development Model was an important part of the mentoring program. This model was used to provide a long-term framework to the programs and to insure that the focus of the program was to increase student achievement through the use of the technology, not just providing personal technology skills to each mentee.

Using the Instructional Design Process

Creating curriculum for professional development is different than creating lessons for a traditional classroom. A classroom teacher is usually the designer, developer, and evaluator of their lessons. Using the principles of Instructional Design developed by Dick et al. can help create a solid foundation for a lesson. The steps of creating objectives, describing learner characteristics, and developing both summative and formative evaluations can help avoid the loss of focus and increase the chances for success (Dick et al., 2009).

As I worked with my district's technology committee to develop our mentoring program curriculum, I needed to stay flexible in my thinking. Since my graduate project started the conversation about possible technology training and being the only person in our district's technology committee with Instructional Design experience, it was important that as this program developed, it followed the logical steps of Instructional Design ((Dick et al., 2009).)

A needs assessment was not conducted because of the district's administration decision to focus on webpage design as the first topic. Even though the SEDTA survey

was given before the program began, it was used as a summative evaluation tool instead of as a needs assessment.

Learners' characteristics were carefully considered throughout the design and development of the program. The diversity of learner and individual personalities were considered when joining mentors to mentees. We also created handouts, supporting websites, and other supportive tools to provide help to mentees who struggle when learning new technologies. Providing each mentee with a wide range of resources insured that all types of learners would be successful.

Motivation was aided by the administration's decision to compensate staff for their time and effort. This was a dramatic change from past procedures. In the past, technology training was squeezed into small, disconnected sessions, during normal contract time. Each mentee was given the choice to join the mentoring program. With the district's proposal to pay each teacher, all district staff decided to attend.

The actual presentation of the materials was based upon a constructivist approach. Teachers were given the basic skills to make a website and then worked together with their mentors to create a personal website for their class. Most mentees appreciated this approach and found the one-on-one support from trusted colleagues a positive aspect of the program.

The performance objectives for each mentee were established by district administration. They required that all mentees create a basic website that included a class description, contact information, schedule, and a short personal introduction. While all mentees were able to meet this objective, many exceeded these basic objectives and

expanded their websites to include attached assignments, interactive calendars, and resource links.

Overcoming First-Order Barriers Through Design

Supported by the research of Healy, Ertmer, and Barry; this mentoring program was designed to remove first-order barriers. Having long-term support through technology mentors was the first step. Working together as colleagues instead of using single-session technology training was an important consideration to slowly change skills and beliefs about technology use.

First, Dike-New Hartford agreed to purchase personal laptops for all staff. This would insure that all members of the mentoring group have tools and resources to integrate. The commitment shown by the investment of funds for hardware and software demonstrated that technology use in the district is a supported goal.

This project was designed so that the training was not something extra that teachers had to add to their already full schedules. Instead, adequate time and resources were provided so that new technology skills could be actively integrated instead of just being introduced. Teachers were provided adequate time to learn new technology skills and then given additional time to develop them as instructional tools to use within their classrooms.

Along with using the Iowa Professional Development Model (IPDM) and overcoming first-order barriers, we also followed the Instructional Design Model in creating the lessons and supporting documents used in the mentoring program. With each step of design, we used instructional design principles ((Dick et al., 2009), making sure that we provided each mentee hands-on experience using Google Sites. With the goal of

all mentees to create a class website, we designed two sessions that included a demonstration of Google Sites, step-by-step instruction on each additional feature, handouts that could be used by mentees who preferred written directions, as well as a project website that provided helpful hints, links and examples of class websites (see Appendix C).

Development

The first step was to train all the future mentors with Google Sites. Since my initial presentation introduced Google Sites, I met with each mentor individually and shared my experiences with this new online tool. As a committee, we all agreed that before the first training session we all would create class websites using Google Sites. These websites would act as examples for mentees as well as give all mentors hands-on experience using the software.

The committee was then concerned about developing a curriculum and resources that not only taught how to use Google Sites, but motivated each mentee to explore how a class website could be developed into a tool to support technology integration. We first started by creating a website that could be used to guide our instructions. It included example websites, downloadable directions, step-by-step instructions to use Google Sites, and collaborative tools that each mentor and mentee could use to work together (see Appendix C).

Since this mentoring program was an ongoing project, the next step of development was to take the initial step of creating a website and expanding the sites during the next several years into a platform where teachers can link technology-based units. A class website makes the accessibility of Web 2.0 tools easier for students and

parents and can then be quickly incorporated within the flow of a normal class. Future technology tools can include attached homework assignments, resource links, student created computer projects, and more student-centered activities.

Utilization

During my initial presentation, I was surprised by the willingness and eagerness of my district staff members. While my daily responsibilities as the technology leader of my building include troubleshooting computer problems and fixing servers, I was not aware of my building staff's desire to learn new technologies. With the frustrations of first-order barriers removed, most staff members were actually encouraged by the energy of pursuing something new and useful. It will be exciting to see the next step in this project. I was anxious to see how we can add to each website and how these tools change the way my colleagues teach. In turn, it will be exciting to see how my students react to using technology throughout their classes. As a computer teacher, it is easy to see that my students are motivated when using technology. It will be encouraging to see how the integration of technology motivates student to excel in other subject areas.

The overall design and format of the technology sessions worked extremely well. All mentees appreciated the small group format and the one-on-one instruction. After the basic features of Google Sites were explained in detail, mentees were given adequate time to create and collaborate. Working in similar curricular areas, small groups of teachers worked together to create websites that were specific to their needs. Elementary teachers created resource links for parents and students, while junior high and high school teachers created online activities, a calendar of assignments, and descriptions of class expectations.

We provided mentees with handouts that included step-by-step instructions and many less experienced teachers found them to be particularly useful. While most of the educators could follow along with the presentation, many truly appreciated the handouts, especially later while they worked independently. The mentoring website we created also provided mentors and mentees a quick resource that can be used to find technical answers while using Google Sites. This website has become a valuable tool as we move forward in using our class websites.

Evaluation

The overall evaluation tool for the mentoring program was the online survey that was created and shared by the State Educational Technology Directors Association (SETDA.) The SETDA is a comprehensive survey that was provided by our local AEA technology consultant and was given to all staff shortly after my initial presentation (see Appendix E). In the future, it will be given at the beginning and end of each school year to measure the ongoing effect of our mentoring program and professional development efforts. While this survey measures first-order barriers, it also measures the changes in second-order barriers, which can help measure changes in attitudes through the technology-mentoring program.

The initial survey indicated that technology use was widespread throughout the district, with almost all teachers using technology for daily tasks, including electronic grading, email, and word processing, but the survey also indicated that student-centered uses were limited to just a few teachers. These teachers would be an important part of the mentoring program because they already possessed the skills to integrate technology and were willing to share their expertise and passion for technology integration. The survey

also indicated that a clear technology vision was lacking throughout the district. While technology use was expected, training and district goals were not aligned to meet these expectations.

The second SEDTA survey results were not available at the time of this writing, but preliminary comments have been positive and 50 out of 56 mentees who participated have completed and posted a class website. The six remaining staff members are continuing to work closely with their mentors to finish by the end of the first quarter of the current school year. District administration has been extremely pleased with the results, but also want to move the project forward and include more student-centered technology activities included in each teacher's website.

Along with the use of the SEDTA online survey, each mentee is also required to create an Individual Career Development Plan (ICDP) (see Appendix F). This plan is a required part of the evaluation process and required by the Iowa Department of Education. To connect these plans to the mentoring program, mentees created plans that include technology integration as an area of growth. Each month, mentees are required to submit Technology Integration Logs (see Appendix G) that document technology use. These logs can help show personal growth in technology skills and integration.

One aspect of this mentoring program, which will be impossible to measure, is the impact that collaboration between teachers will have on the culture and climate of the school as a whole. Students see the efforts and dedication that teachers exhibit when they work together to make learning engaging. Technology use is contagious, being passed from teacher to students in the normal flow of each class. Modeling the value and

importance of technology is the best way to encourage use whether teachers share with teachers, or students sharing with students.

While the SEDTA survey and ICDP plans will be used to measure overall success of the mentoring program, the close relationship between mentor and mentee will act as the formative evaluation of the program. As the mentoring program continues, additional data will be collected as mentor and mentee develop collaboration logs. These collaboration logs along with individual Technology Integration Logs will track the day-to-day integration of technology and show personal growth as a result of the mentoring program.

Summative evaluation data will be collected through several means. First, each mentee will complete a second SEDTA survey that will measure gained personal skills using technology as well as changes in second-order beliefs about the value of technology as a teaching tool. But technology integration can also be measured in direct observation by building-level principals during yearly observations. Here principals can observe and record advances in the integration of technology and support teachers as they include these gained technology skills in their personal teaching portfolios. Real success will be measured when each mentee includes technology in their day-to-day teaching without changing the flow of their classroom.

ANALYSIS AND RECOMMENDATIONS

The factors that keep teachers from integrating new teaching techniques include a complex set of variables. Similar to the students they teach, classroom teachers have a mixture of abilities, beliefs, and teaching philosophies. Providing effective professional development, which meets the needs and abilities of all teachers, takes careful consideration, sound instructional design principals, and a well-developed support system; all three are critical aspects of productive technology training.

Through the synthesis of the reviewed literature, I was able to apply instructional design to designing appropriate professional development. Professional development for technology integration must go beyond a single-session training session and move towards a comprehensive plan for professional development that includes four main steps.

Step 1: Overcoming First-Order Barriers

In dealing with day-to-day struggles that teachers face when integrating technology, many basic concerns need to be addressed, such as the availability and accessibility of technology hardware that provides teachers the tools to use in their classroom. Being somewhat paradoxical, the purchase of hardware only happens when teachers provide evidence of effective integration. Moreover, effective integration only happens when hardware and software is available for integration.

The articles presented by Glazer describe the concept that in order to overcome first-order barriers, technology mentors need to step up within their school buildings and promote and share their technology experience. Teachers sharing their skills and student experiences can provide the peer pressure to move theory to practice. Only then will

administrators and district officials see that technology can become a valuable teaching tool, which should be supported.

In the case of this mentoring program, when first-order barriers are addressed, real progress can be made. For this project, after funding laptop computers, supportive teacher training was provided. Teachers who normally would not attempt creating a class website were successful because they were taught technology with modern and mobile technology tools in their hands. These new personal tools can further develop skills and confidence when transitioning to classroom integration.

Step 2: Overcoming Second-Order Barriers through Collaboration and Coaching

Support is the key concept when overcoming second-order barriers and changing foundational teacher beliefs about the value of technology. Since technology integration and project-based instruction moves the center of control from the teacher to the student, providing a support network for teachers is critical. Daily support is an important step as mentees take risks, integrating technology and new skills blossom into new ways of teaching.

This mentor program provided evidence that initial changes can be made with the ongoing support of colleagues acting as mentors. Mentees were less apprehensive to learn new technologies when supported by a knowledgeable mentor and a supportive administration. While single-session training sessions can introduce a topic, novice learners appreciate a helpful friend standing behind them as they learn a different approach to teaching.

Step 3: Designing Professional Development

A strong commitment to technology-focused professional development falls into

the responsibility of district administration. Finding the right technology leader is an important step to connect technology integration and student success. Being the financial decision makers and setting the schedules, building principals are the cornerstones for technology use. Teachers and principals need to work together to identify building needs and determine the best action to address technology concerns.

In general, teachers know the needs of their fellow teachers. Having technology leaders with a strong understanding of instructional design are the best individuals to lead professional development. Closely evaluating student and teacher technology needs, technology leaders at the building level can provide the infrastructural support to make real changes. Furthermore, by removing the guest speaker and *one day in-service*, real changes can be made to support teachers in all areas of technology integration.

Step 4: Long-Term Planning for Technology

Technology planning is also a critical part in supporting teachers in the development of integration skills. Even though the creation of this mentoring program preceded the creation of a formal technology plan, it provides a model for future professional development. As Dike-New Hartford develops a formal technology plan, the positive effects of this mentoring program have helped identify a core group of teachers who are dedicated to the promotion of technology. These technology leaders can help develop a plan that includes much more than a timeline for purchases, but rather a long-term plan to help teachers' development of effective integration skills.

RECOMMENDATIONS

It will be my recommendation to continue this mentoring program through the next two years. I have submitted a proposal to include the following technology tools for next year's professional development. They include:

- Introduction to Microsoft Office. A majority of staff lack basic skills using Microsoft Word, Excel, and Power Point. Transitioning away from Appleworks has been a district goal and each new laptop purchased for teachers includes Office 2007.
- Video Streaming Training: Provide each mentee experience using *United Streaming* and other video steaming websites that can be quickly linked to their class websites. These tools can help bring new resources into each classroom.
- Digital Imaging Tools: Lesson includes an introduction to digital photography and video production. Each mentee will be trained to include digital images and videos within their class websites. This can include: iPhoto, iMovie, and iDVD.
- Blogging: Continue the training on blogging and the benefits it can have on students' reading and writing skills. Provide instruction on creating, linking, and the integration of blogs within each mentee's website.
- Online Assessment Tools: Provide instruction on how to create online assessments. Demonstrate United Streaming assessments tools and how to link assessment to class websites.
- Online Rubric Tools: Lesson is an introduction to Rubistar and other rubric development websites. Provide instruction on how to create effective rubrics and provide these assessment tools online to students and parents.

Even though this project is expected to last the duration of one school year, the recommendations support the ongoing focus on the importance of technology as a teaching tool. While nothing will ever replace the knowledge and guidance of a highly qualified teacher, technology can offer teaching resources that can enhance teaching and overall student learning. A classroom teacher needs support to learn these new technologies and integrating these new skills within the normal flow of their teaching. This project demonstrates that when colleagues work together, technology skills can be shared in a supportive and effective learning environment.

CONCLUSIONS

Integrating technology is simply changing the way we teach. Technology integration takes the best of traditional teaching and sound instructional practices and changes the means of doing things. The integration of technology requires students to learn the same curriculum, but using a different technique to engage students. The use of lecture and textbook driven instruction is slowly being replaced by multimedia presentations and computer-based tutorials. Technology is the next step in the evolution of teaching and learning and preparing past, present, and future teachers to use these tools is a challenge.

Teachers acting as technology leaders can replace having a guest presenter, introducing a new piece of technology, and then leaving the teachers to fend for themselves. Many classroom teachers already possess advanced technology skills, but need the chance and time to share their talents with their colleagues. Single-session training sessions lack the ongoing support that all learners need to change new ideas into everyday changes in teaching. In many cases, classroom teachers, acting as technology mentors, are the best presenters of technology-based teaching methods and technology integration.

In the past, technology coordinators and media specialists have been the leaders in technology. However, the time is now for teachers to become the leaders. Only through partnerships between educators can the true power of technology and its impact on learning become a reality. Furthermore, in taking the integration of technology away from larger group training sessions and transforming them into one-on-one collaboration between fellow teachers, real changes in integration and teaching practices can be

adopted. Teachers working together, developing technology training specific to their needs can help bridge the gap between technology training and true technology integration. Student success is the goal of all teachers. By working together, colleagues can share their technology skills to help all students succeed in a life using technology.

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Appendix A *Blogs in the Classroom*

Lesson Title: *Blogs in the Classroom*

Subject: Technology Professional Development

Topic: Using Blogs for Students Reading and Writing.

Student Profile: 8 Pre-K thru Junior High Teachers

Abstract:

With students spending more and more time using social networking sites like My Space and Face Book, using blogs to encourage reading and writing skills can help connect class content in a motivating environment.

Simply put, blogging is an ongoing online discussion where students can post their ideas and comments.

Benefits of using Blogs in the Classroom:

- * Encourages reading and writing, both during class and at home.*
- * Motivating environment.*
- * Teacher can control what is posted.*
- * Blogging can take place 24/7, at home and at school.*
- * Increased accountability, since all students will see postings.*
- * FREE, many sites provide free blogging services.*
- * Writing is stored in digital form. Teacher can monitor blog from any computer with Internet access.*
- * Parents can visit blog and see student work.*
- * Blogs can be used to create class website.*

Teachers will be shown how to create a simple blog using Blogger, example of blogs being used to support reading and writing, and given time to create a blog to use with their class. Time will be given at the end of session to create blog with the support of mentors as well as working collaborative with a partner. A Blogger tutorial and handout will be provided along with additional resources.

NET Standards for Teachers

I. Technology Operations and Concepts

Teachers demonstrate a sound understanding of technology operations and concepts.

Teachers:

- A. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).
- B. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences

Teachers plan and design effective learning environments and experiences supported by technology.

Teachers:

- A. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- B. apply current research on teaching and learning with technology when planning learning environments and experiences.
- C. identify and locate technology resources and evaluate them for accuracy and suitability.
- D. plan for the management of technology resources within the context of learning activities.
- E. plan strategies to manage student learning in a technology-enhanced environment.

III. Teaching, Learning, and the Curriculum

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

Teachers:

- A. facilitate technology-enhanced experiences that address content standards and student technology standards.
- B. use technology to support learner-centered strategies that address the diverse needs of students.
- C. apply technology to develop students' higher-order skills and creativity.
- D. manage student learning activities in a technology-enhanced environment.

IV. Assessment and Evaluation

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

Teachers:

A. apply technology in assessing student learning of subject matter using a variety of assessment techniques.

B. use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

C. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. Productivity and Professional Practice

Teachers use technology to enhance their productivity and professional practice.
Teachers:

A. use technology resources to engage in ongoing professional development and lifelong learning.

B. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

C. apply technology to increase productivity.

D. use technology to communicate and collaborate with peers, parents, and the larger community to nurture student learning.

VI. Social, Ethical, Legal, and Human Issues

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice.

Teachers:

A. model and teach legal and ethical practice related to technology use.

B. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.

C. identify and use technology resources that affirm diversity.

D. promote safe and healthy use of technology resources.

E. facilitate equitable access to technology resources for all students.

Lesson Description:

	Instructor Prep Faculty	In-Service Teachers	Notes
Preparation	Create website to support training session.	Come to training with one example of class discussion question that could be developed into a blog.	
Introduction	Introduction to blogging and it's uses in education.		Blogging is something "different" not something "extra."
Implementation	Reserve the Mobile Lab for session. E-mail teachers to class discussion to be created into a blog. Present information from website.	Session will include: Uses for Blogs. Demonstration how to create blog. Example uses of blogs to support learning. Work time to create blog.	
Culmination	Provide time during the session. for one-on-one help and support when learning Blogger.	In-service teachers will share what they created. Share ideas about what they might include in the future and integration ideas on using blogging with students.	

Software: Internet Browser

Hardware: Computer with Internet Access

Websites:

http://www.educationworld.com/a_tech/techtorial/techtorial037print.shtml

<https://www.blogger.com/start>

<http://dikenhjh.blogspot.com/>

http://itc.blogs.com/thewriteweblog/2004/11/who_says_elemen.html

<http://rangerblue.edublogs.org/>

<http://www.missbakersbiologyclass.com/blog/>

<http://mrcsclassblog.blogspot.com/>

Related Materials:

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Appendix B

Digital imaging

Lesson Title: *Digital Imaging*

Subject: Technology Professional Development

Topic: Using digital cameras and camcorder to help support learning.

Student Profile: 8 Pre-K thru Junior High Teachers

Abstract:

Capturing important moments in your class has become easier with the invention of digital cameras and digital camcorders. But using imaging software, saving pictures and video, and creating and posting digital images can be confusing. During this session, we will explore using both digital and video cameras and the software used to take, edit, and publish your images.

Advantages of using Digital Imaging in your Classroom:

- * Endless uses to support your lessons. Scavenger hunts, photo journals, class presentations, etc...*
- * Motivating for students.*
- * Capture images to share with students, parents, and administrators.*
- * Create your own visuals for your lesson.*
- * Artifacts for your portfolio.*

Disadvantages:

- * Video files are large and difficult to save.*
- * Color photos are expensive to print.*
- * Software is needed to edit and print.*

Teachers will be given training in using iPhoto and iMovie and will create a project during the school year using either still images or video.

NET Standards for Teachers

I. Technology Operations and Concepts

Teachers demonstrate a sound understanding of technology operations and concepts.

Teachers:

- A. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).
- B. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences

Teachers plan and design effective learning environments and experiences supported by technology.

Teachers:

- A. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- B. apply current research on teaching and learning with technology when planning learning environments and experiences.
- C. identify and locate technology resources and evaluate them for accuracy and suitability.
- D. plan for the management of technology resources within the context of learning activities.
- E. plan strategies to manage student learning in a technology-enhanced environment.

III. Teaching, Learning, and the Curriculum

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

Teachers:

- A. facilitate technology-enhanced experiences that address content standards and student technology standards.
- B. use technology to support learner-centered strategies that address the diverse needs of students.
- C. apply technology to develop students' higher-order skills and creativity.
- D. manage student learning activities in a technology-enhanced environment.

IV. Assessment and Evaluation

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

Teachers:

- A. apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- B. use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

C. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. Productivity and Professional Practice

Teachers use technology to enhance their productivity and professional practice.

Teachers:

A. use technology resources to engage in ongoing professional development and lifelong learning.

B. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

C. apply technology to increase productivity.

D. use technology to communicate and collaborate with peers, parents, and the larger community to nurture student learning.

VI. Social, Ethical, Legal, and Human Issues

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice.

Teachers:

A. model and teach legal and ethical practice related to technology use.

B. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.

C. identify and use technology resources that affirm diversity.

D. promote safe and healthy use of technology resources.

E. facilitate equitable access to technology resources for all students.

Lesson Description:

	Instructor Prep Faculty	In-Service Teachers	Notes
Preparation	Access to digital cameras and to digital camcorders.	Be able to access images stored on school server to use with iPhoto.	Sample video will be stored on external hard-drive to use with iMovie.
Introduction	Present example of iMovie. 8 th grader promotion video, ecology debate.		
Implementation	Reserve the Mobile Lab for session. E-mail teachers to have digital pictures taken prior to our session.	Session will include: Uses for digital imaging. Demonstration how to create slide shows and videos. Example uses of digital imaging to support learning. Work time to create slide show or video.	Talk about the difficulty of saving video projects. A short introduction to iTunes since most will want to include music to video. Discuss copyright issues.
Culmination	Provide time during the session for one-on-one help and support when learning iPhoto or iMovie.	In-service teachers will share what they created. Share ideas about what they might include in the future and integration ideas on using digital imaging with students.	Show slide shows created in session.

Software: Internet Browser, iPhoto, iMovies, iTunes

Hardware: Computer with Internet Access

Websites:

<http://www.basic-digital-photography.com/>

<http://www.ofzenandcomputing.com/zanswers/983>

<http://camcorders.about.com/od/videorecordingtips/a/ShootingTips.htm>

<http://www.apple.com/support/iphoto/tutorial/>

<http://www.apple.com/support/ilife/tutorials/imovie/>

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Web Resources

Introduction to Google Sites: <http://sites.google.com/site/dnhpracticesite/>

Mentoring Program Website: <http://dnhtechmentors.googlepages.com/home>

Needs Assessment Website: <http://www.setda-peti.org/>

Appendix C *Google Sites in the Classroom*

Lesson Title: Google Sites in the Classroom

Subject: Technology Professional Development

Topic: Providing teachers a simple and productive way to create online content.

Student Profile: 8 Pre-K thru Junior High Teachers

Abstract:

One obstacle that keeps teachers from creating and using online content is the difficulty in .html programming and the need to have an external source to host school content. While most districts currently have available web servers, the process of creating, uploading, and most importantly, updating a class website is overwhelming for the typical classroom teacher.

Google Sites is a simple and easy webpage creator that teachers can utilize for all kinds of classroom uses. Starting by creating a simple introduction page, teachers can use this free tool to display student work, create a list of class related sites, or create a complete class website to lead their instruction.

This lesson includes an introduction video entitled Did you know? 2.0, this video will help encourage the use of technology in all subject areas. This video shows a quick look at how technology is impacting our students' everyday lives and the globalization of the world. The video uses graphics, music, and statistics to demonstrate how students are using technology to collaborate and communicated about educational ideas.

This lesson is guided by a website created using Google Sites. The presentation include a rationale for using Google Sites, examples of classroom uses, and what information might be included in a class website. The presentation focuses on the easy and quickness of using Google Sites and provides a paper handout as well as additional resources for teachers who decide to utilize this technology tool.

The remaining of the session will be given as work time when teachers are encouraged to create a simple introduction page for there class. At this time, one-on-one help will be provided to teachers as they create. Ongoing professional development will be provided to introduce additional integration skills that can be quickly linked to their class website.

NET Standards for Teachers

I. Technology Operations and Concepts

Teachers demonstrate a sound understanding of technology operations and concepts.

Teachers:

- A. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).

- B. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences

Teachers plan and design effective learning environments and experiences supported by technology.

Teachers:

- A. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- B. apply current research on teaching and learning with technology when planning learning environments and experiences.
- C. identify and locate technology resources and evaluate them for accuracy and suitability.
- D. plan for the management of technology resources within the context of learning activities.
- E. plan strategies to manage student learning in a technology-enhanced environment.

III. Teaching, Learning, and the Curriculum

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

Teachers:

- A. facilitate technology-enhanced experiences that address content standards and student technology standards.
- B. use technology to support learner-centered strategies that address the diverse needs of students.
- C. apply technology to develop students' higher-order skills and creativity.
- D. manage student learning activities in a technology-enhanced environment.

IV. Assessment and Evaluation

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

Teachers:

- A. apply technology in assessing student learning of subject matter using a variety of assessment techniques.

B. use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

C. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. Productivity and Professional Practice

Teachers use technology to enhance their productivity and professional practice.
Teachers:

A. use technology resources to engage in ongoing professional development and lifelong learning.

B. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

C. apply technology to increase productivity.

D. use technology to communicate and collaborate with peers, parents, and the larger community to nurture student learning.

VI. Social, Ethical, Legal, and Human Issues

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice.
Teachers:

A. model and teach legal and ethical practice related to technology use.

B. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.

C. identify and use technology resources that affirm diversity.

D. promote safe and healthy use of technology resources.

E. facilitate equitable access to technology resources for all students.

Lesson Description:

	Instructor Prep	In-Service	Notes
Preparation	Faculty	Teachers	
	Set up the mobile lab.	Bring information to the training session that can be included in a class website.	Make sure to include information about transferring existing class
	Upload the latest versions of Fire Fox. Google Sites	Grading	

	will not run with Apple based Safari.	scale, class expectations, etc...	websites to Google Sites.
Introduction	Introduction Video, Did you know, 2.0.	In-service teachers can reflect about whether they feel they are preparing their students to meet the technological changes of the future.	Include link to video and quickly introduce Teacher Tube.
Implementation	Share the many benefits of using Google Sites by presenting from the Google Sites created for lesson. Stress that even though this is additional, it will replace much of the daily work.	In-service teachers will create a simple introduction to their class using Google Sites including contact information, summary of their classes, and three web-based resources.	Collect Google Sites addresses created by teachers and post them to the lesson website.
Culmination	Provide time during the session for one-on-one help and support when learning Google Sites.	In-service teachers will share what they created. Share ideas about what they might include in the future and integration ideas on using Google Sites with students.	

Software: Internet Browser

Hardware: Computer with Internet Access

Websites:

<http://dnhtechnologytraining.googlepages.com/dnhtechnologytraining>

<http://shifthappens.wikispaces.com/>

<http://www.teachertube.com/>

<http://sites.google.com/site/dnhpracticesite/>

<https://www.google.com/accounts/ServiceLogin?service=pages&continue=http%3A%2F%2Fpages.google.com%3A80%2F<mpl=yessignups>
<http://pages.google.com/-/about.html>

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Appendix D

Wikispaces in Education

Lesson Title: Wikispaces in Education

Subject: Technology Professional Development

Topic: Using Wikis to provide students collaborative experience working online.

Student Profile: 8 Pre-K thru Junior High Teachers

Abstract:

In many K-12 setting, students are producing work that is only shared between student and teacher. While this has been effective in the past, the use of online tools like Wikispaces can increase accountability and make the overall purpose of writing more meaningful and worthwhile. This session of technology training will introduce the advantages of using Wikispaces, demonstrate how to create and use a Wikipage, and some of the technical issues using this collaboration tool. This introduction will also include several examples how the use of Wikispaces and their uses in the K-12 setting.

Ideas to be shared:

- * Available on any computer with Internet.
- * Students can work collaboratively.
- * Work is viewable by the world, or kept private.
- * Work is stored online, no need for server folders, disks, flashdrives.
- * Teacher, parents, or other students can quickly add changes or comments.
- * Great way to create students e-portfolios, class website, journal.
- * Online E-mail Service
- * FREE

This lesson will also include an online tutorial, step-by-step handout, and resources links. Teachers will also visit students' Wikispaces used locally last year to support National History Day.

At the end of the session, time will be given to teachers to create a lesson that utilizes Wikispaces that support past training in Rigor and Relevance.

NET Standards for Teachers

I. Technology Operations and Concepts

Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:

- A. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).

- B. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences

Teachers plan and design effective learning environments and experiences supported by technology. Teachers:

- A. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- B. apply current research on teaching and learning with technology when planning learning environments and experiences.
- C. identify and locate technology resources and evaluate them for accuracy and suitability.
- D. plan for the management of technology resources within the context of learning activities.
- E. plan strategies to manage student learning in a technology-enhanced environment.

III. Teaching, Learning, and the Curriculum

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers:

- A. facilitate technology-enhanced experiences that address content standards and student technology standards.
- B. use technology to support learner-centered strategies that address the diverse needs of students.
- C. apply technology to develop students' higher-order skills and creativity.
- D. manage student learning activities in a technology-enhanced environment.

IV. Assessment and Evaluation

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:

- A. apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- B. use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

C. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. Productivity and Professional Practice

Teachers use technology to enhance their productivity and professional practice.

Teachers:

A. use technology resources to engage in ongoing professional development and lifelong learning.

B. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

C. apply technology to increase productivity.

D. use technology to communicate and collaborate with peers, parents, and the larger community to nurture student learning.

VI. Social, Ethical, Legal, and Human Issues

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice. Teachers:

A. model and teach legal and ethical practice related to technology use.

B. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.

C. identify and use technology resources that affirm diversity.

D. promote safe and healthy use of technology resources.

E. facilitate equitable access to technology resources for all students.

Lesson Description:

**Instructor Prep
Faculty**

In-Service Teachers

Notes

Preparation	Create website to support training session.	Come to training with one example of students' written work that could be posted online.	
Introduction	Introduction to Wikispaces using mentoring program website.		Focus on that Wikispaces as something "different" not something "extra."
Implementation	Reserve the Mobile Lab for session. E-mail teachers to bring writing assignment to use with session. Present information from created website.	Session will include: Uses for Wikis. Demonstration how to create a Wiki. Example uses of Wikis. Work time to create Wiki.	
Culmination	Provide time during the session for one-on-one help and support when learning Wikispaces.	In-service teachers will share what they created. Share ideas about what they might include in the future and integration ideas on using Wikispaces with students.	

Software: *Internet Browser*

Hardware: *Computer with Internet Access*

Websites:

<http://dnhtechmentors.googlepages.com/home>

<http://www.wikispaces.com/>

<http://www.wikispaces.com/site/tour#introduction>

<http://www.wikispaces.com/site/for/teachers100K>

<http://mrscrofutwiki.wikispaces.com/>

<http://rms102.wikispaces.com/>

<http://goodnewslutheran.wikispaces.com/Year6RMaoriCulture>

<http://dnhjh6.wikispaces.com/>

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SEDTA-TEACHER SURVEY**Report Index**

<p>Directions: This survey is about technology use at your school. You will be asked about your teachers' technology use, availability of technology at your school, and school/district policies or resources related to technology.</p> <p>In all questions that follow, "technology" refers to computers (including PDA's or "Palm Pilots") or equipment that is used with computers (e.g. scanners, printers, probes, digital video recorders, etc.). Do not consider overhead projects, traditional (i.e. analog) VCRs, or tape recorders when answering these questions.</p> <p>Most schools across the nation are not yet at the point where budgets, funding requirements, technology resources, etc. allow teachers, students, and administrators to use technology to its full potential. This survey will help identify specific areas of need and will help track changes in these issues over time. For the survey to be most useful, it is important that you respond as honestly as you can. Please be assured that individual responses will never be used for reporting.</p> <p>Thank you for your help!</p>	
School level:	
What grade levels do you currently teach? (Check all that apply)	
Which subject(s) do you teach? (Check all that apply)	
Including this school year, how many years have you taught?	
Including this school year, how many years have you taught at your current school?	
Taking into account professional and personal use, how often do you typically use the Internet from home? (Select one)	
Are data being collected to determine if technology is impacting student achievement in your content area(s)?	
Do those data clearly indicate that technology is positively affecting student achievement?	
Are data being collected to determine whether technology is impacting students' 21st Century Skill development (e.g., technology literacy, financial literacy, employability skills, and health literacy)?	
Do those data clearly indicate that technology is positively affecting students' 21st Century Skill development?	
Are data being collected to determine students' proficiency in 21st Century Technology Literacy?	
Are data being collected to determine if technology is impacting student engagement?	
Do those data clearly indicate that technology is positively affecting student engagement?	
How much time per week does a typical student in your class(es) use technology while at school? (Select one)	
In your classes, what role does technology play in building the following skills or proficiencies in your students?	
**Mark "NA" only if you are not working on this skill or proficiency with your class.	
When designing technology-supported learning experiences, how frequently do you use research to guide your decision-making? (Select one)	
How often do students in your class(es) use technology to do the following?	
Mark "Not Applicable" only if this use does not apply to your subject area:	
In my school, teachers: (Select one)	
In my school, teachers in the same grade or subject-area: (Select one)	
Which of the following strategies has your school employed for addressing students' technology literacy: (Check all that apply)	
Which technologies do you require students to use for your classes? (Check all that apply)	
Which technologies do you explicitly teach students to use? (Check all that apply)	
For which technologies do you explicitly assess student proficiency? (Check all that apply)	
I explicitly design class content or assignments to build this skill in students. (Check all that apply)	

I explicitly assess whether students are proficient in this skill. (Check all that apply)	<input type="checkbox"/>
How prepared do you feel to manage technology-supported learning with your class(es)? (Select one)	<input type="checkbox"/>
"Best practices with technology" are technology-supported teaching practices that either have a basis in educational theory or are supported by research.	<input type="checkbox"/>
How are best practices with technology identified and shared at your school? (Select one)	<input type="checkbox"/>
At your school, how frequently are teachers exposed to innovations and best practice in teaching with technology? (Select one)	<input type="checkbox"/>
Which best describes your skill level with each of the following technologies:	<input type="checkbox"/>
IMPORTANT: Questions 32 through 35 describe various aspects of using technology for teaching, assessment, or professional development. Many of the approaches or strategies described are high-level, and in some cases, teachers simply do not have the resources or training to implement them. The questions are intended to track progress as technology access and professional development change over the next few years. Please indicate your level of agreement with the following statements.	<input type="checkbox"/>
Planning Technology-Supported Instruction:	<input type="checkbox"/>
Executing Technology-Supported Instruction	<input type="checkbox"/>
Technology and Assessment:	<input type="checkbox"/>
Technology For My Professional Use:	<input type="checkbox"/>
During this school year, which of the following products do (or will) students in your classes use to demonstrate their learning? (Check all that apply)	<input type="checkbox"/>
Which of the following are you currently doing (or have you done) during this school year? (Check all that apply)	<input type="checkbox"/>
Rate your access to the following items while at school:	<input type="checkbox"/>
Rate your access to the following items while outside of school:	<input type="checkbox"/>
By relatively new computer, we mean computers that are: • Less than 5 years old • Run MAC OS X, 2000/Windows XP, or Vista	<input type="checkbox"/>
Rate your students' access to the items below while outside of school:	<input type="checkbox"/>
(Take your best guess at students' access outside of school and mark "Don't Know" only if you have absolutely no idea)	<input type="checkbox"/>
Do all schools in your district that are the same grade level (e.g., all elementary schools) have approximately the same level of access to equipment and software? Examples of Equipment and software include access to up-to-date computers in the classroom, scheduled time in computer labs, etc.	<input type="checkbox"/>
Do all schools in your district that are the same grade level (e.g., all elementary schools) have approximately the same level of access to a wide variety of technology uses? Examples of A wide variety of technology uses include using technology for creating presentations, doing research, publishing online, and other purposes versus using technology only for drill and practice or word-processing.	<input type="checkbox"/>
Does your school or district have a vision for how technology should be used by students and by teachers to improve teaching and learning? (Select one)	<input type="checkbox"/>
Our academic learning standards or content standards include 21st Century Skills like technology literacy, financial literacy, health literacy, and employability skills.	<input type="checkbox"/>
When teachers design curriculum and plan instruction, this district requires that they consider 21st Century Skills like technology literacy, financial literacy, health literacy, and employability skills.	<input type="checkbox"/>
In this district, we have assessments that measure students' technology literacy.	<input type="checkbox"/>
In this district, we have assessments that measure 21st Century Skills like technology literacy, financial literacy, health literacy, and employability skills.	<input type="checkbox"/>
IMPORTANT: Questions 49 - 51 ask about technology-related policies, training, and incentives in your school or district. Teachers sometimes have difficulty responding candidly if they feel that they are being "disloyal" to their school. However, it is understood that some of the issues addressed in the questions are limited by budgets, funding requirements, or state/federal policies, and may not be in control of school leadership. Please respond to each item as honestly as you can.	<input type="checkbox"/>
Rate your agreement with the following statements. In my school:	<input type="checkbox"/>
To what extent does your school encourage innovative teaching practices? Innovation is generally:	<input type="checkbox"/>
Which of the following incentives are provided by your school/district to encourage teachers to use learning technology? (Check all that apply)	<input type="checkbox"/>
During this school year:	<input type="checkbox"/>
As a result of technology:	<input type="checkbox"/>
In the last two school years, have you participated in school or district-offered professional development that was in any way related to technology use?	<input type="checkbox"/>

Survey Online Report

<http://survey.aca267.k12.ia.us/report?SurveyID=5454&ReportID=...>

How true is each statement below about the professional development experiences offered by your district or school? Base your responses on your experiences over the last two school years.

Professional development offered by my school or district:

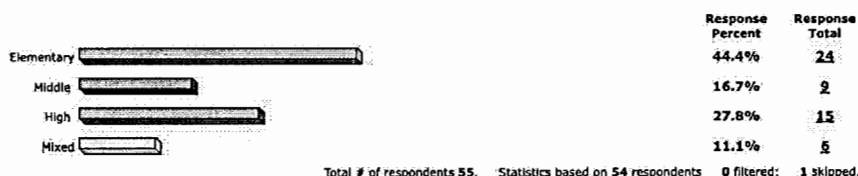
Directions: This survey is about technology use at your school. You will be asked about your teachers' technology use, availability of technology at your school, and school/district policies or resources related to technology.

In all questions that follow, "technology" refers to computers (including PDA's or "Palm Pilots") or equipment that is used with computers (e.g. scanners, printers, probes, digital video recorders, etc.). Do not consider overhead projects, traditional (i.e. analog) VCRs, or tape recorders when answering these questions.

Most schools across the nation are not yet at the point where budgets, funding requirements, technology resources, etc. allow teachers, students, and administrators to use technology to its full potential. This survey will help identify specific areas of need and will help track changes in these issues over time. For the survey to be most useful, it is important that you respond as honestly as you can. Please be assured that individual responses will never be used for reporting.

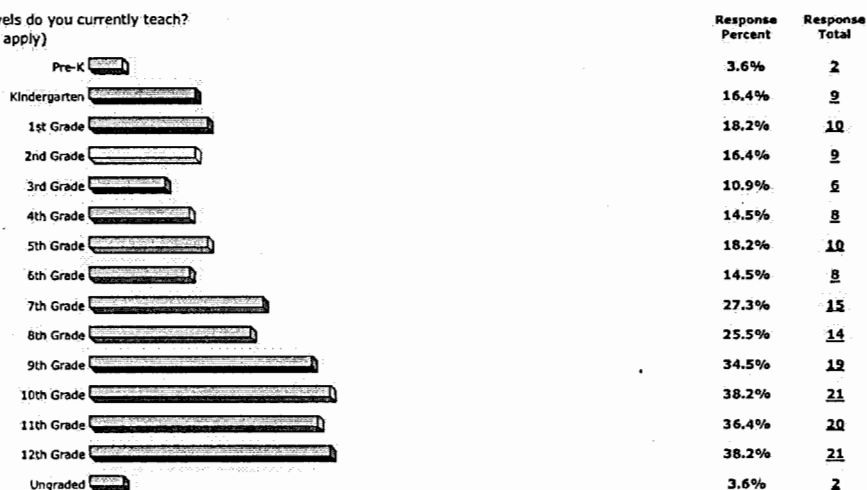
Thank you for your help!

School level:



Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

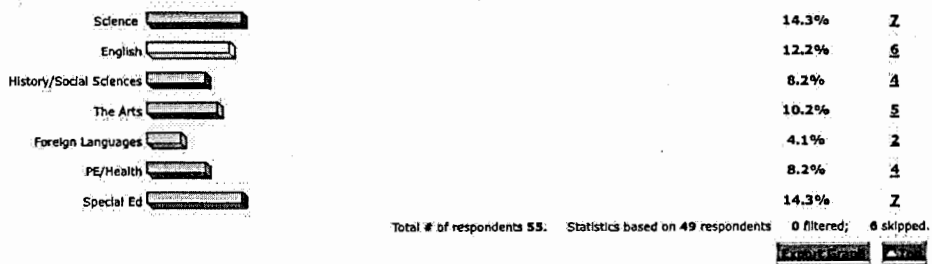
What grade levels do you currently teach?
(Check all that apply)



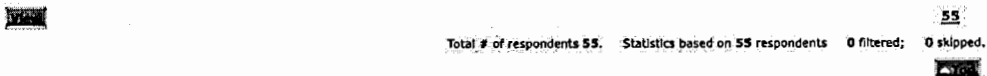
Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

Which subject(s) do you teach?
(Check all that apply)

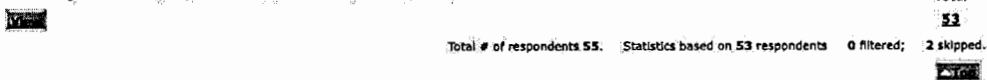




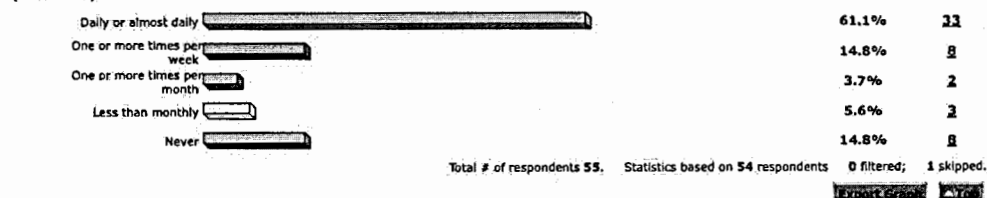
Including this school year, how many years have you taught?



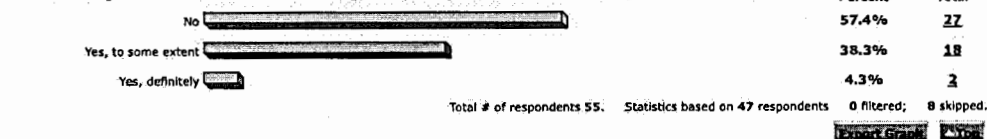
Including this school year, how many years have you taught at your current school?



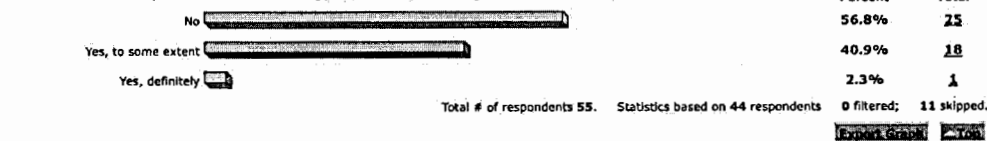
Taking into account professional and personal use, how often do you typically use the Internet from home? (Select one)



Are data being collected to determine if technology is impacting student achievement in your content area(s)?



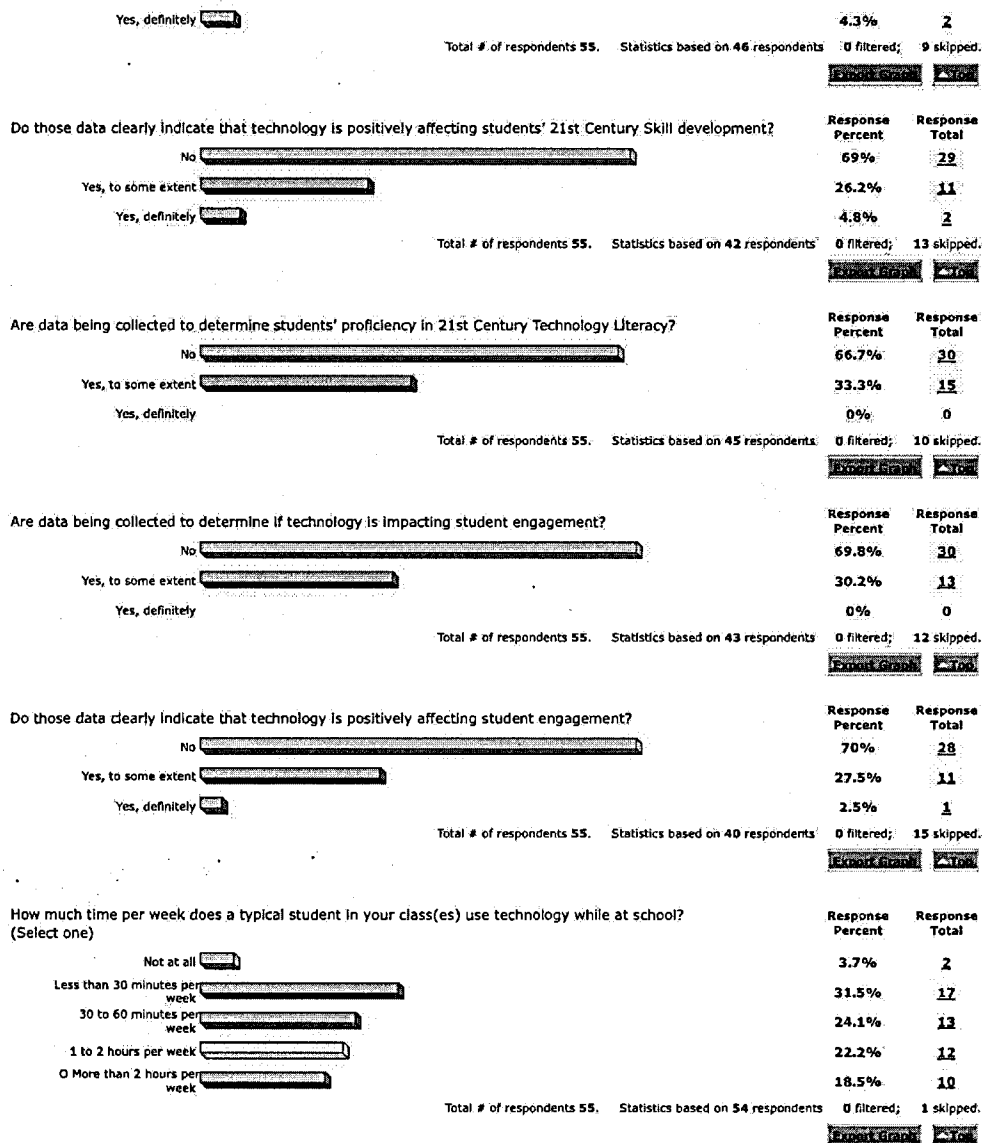
Do those data clearly indicate that technology is positively affecting student achievement?



Are data being collected to determine whether technology is impacting students' 21st Century Skill development (e.g., technology literacy, financial literacy, employability skills, and health literacy)?



Survey Online Report

<http://survey.aea267.k12.ia.us/report?SurveyID=5454&ReportID=...>


In your classes, what role does technology play in building the following skills or proficiencies in your students?

**Mark "NA" only if you are not working on this skill or proficiency with your class.

Response	Not Applicable	Technology is not used	A small part	A large part	Not Applicable	Technology is not used	A small part	A large part	Response Total

Literacy	21.8% (12)	9.1% (5)	52.7% (29)	16.4% (9)		55
Mathematics	32.7% (18)	9.1% (5)	50.9% (28)	7.3% (4)		55
Science	41.8% (23)	16.4% (9)	34.5% (19)	7.3% (4)		55
Social Studies	41.8% (23)	21.8% (12)	23.6% (13)	12.7% (7)		55

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

When designing technology-supported learning experiences, how frequently do you use research to guide your decision-making?
(Select one)

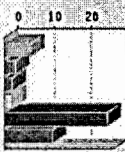
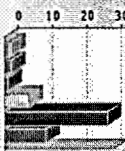
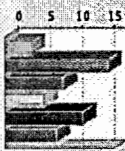
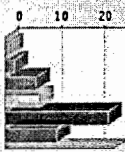


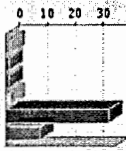
Always or almost always		5.6%	3
Sometimes		51.9%	28
Never or almost never		18.5%	10
I don't know		16.7%	9
Not applicable; I don't use technology to support student learning		7.4%	4

Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

How often do students in your class(es) use technology to do the following?

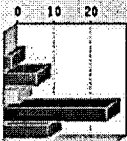
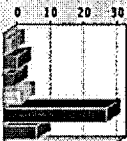
Mark "Not Applicable" only if this use does not apply to your subject area:

	Daily	Weekly	Monthly	Quarterly	Rarely or Never	Not Applicable	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
							Response Total

Communicate with experts, peers, and others (e.g., over email or through discussion boards)	12.7% (7)	5.5% (3)	3.6% (2)	3.6% (2)	50.9% (28)	23.6% (13)		55
Solve real-world problems (i.e., involving situations, issues, and tasks that people actually tackle in the outside world)	3.7% (2)	3.7% (2)	1.9% (1)	13% (7)	55.6% (30)	22.2% (12)		54
Produce print products	7.3% (4)	29.1% (16)	15.4% (9)	10.9% (6)	21.8% (12)	14.5% (8)		55
Produce multi-media, Web, or presentation products	1.9% (1)	3.7% (2)	13% (7)	14.8% (8)	44.4% (24)	22.2% (12)		54
Conduct online research	3.8% (2)	15.4% (8)	13.5% (7)	21.2% (11)	26.9% (14)	19.2% (10)		52
Use drill and practice or tutorial software	3.6% (2)	34.5% (19)	18.2% (10)	3.6% (2)	25.5% (14)	14.5% (8)		55
Use the Internet to collaborate with students in or beyond your school	3.6% (2)	1.8% (1)	1.8% (1)	3.6% (2)	67.3% (37)	21.8% (12)		55

Survey Online Report

<http://survey.acea267.k12.ia.us/report?SurveyID=5454&ReportID=...>

Visually represent or investigate concepts (e.g., through concept mapping, graphing, reading charts)	0% (0)	3.6% (2)	16.4% (9)	7.3% (4)	50.9% (28)	21.8% (12)		55
Use digital tools and peripheral devices (e.g., digital cameras, probes, scanners) to enhance their learning or their school work	3.6% (2)	7.3% (4)	5.5% (3)	9.1% (5)	56.4% (31)	18.2% (10)		55

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

In my school, teachers:
(Select one)

- Are expected to use technology regularly, as appropriate to their teaching assignment
- Are expected to use technology a few times each year
- Decide individually whether and how often they will use technology.
- There are no expectations for technology use, or expectations exist, but teachers don't implement them.

Response Percent Response Total

20.4% 11

9.3% 5

70.4% 38

Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

In my school, teachers in the same grade or subject-area:
(Select one)

- Share little or no common understanding about how technology will be used. Teachers decide individually whether and how they will use technology.
- Share some common understanding about how technology should be used; however, some teachers implement these uses and others do not. (For example, your earth science curriculum guide identifies spreadsheets as the adopted way of teaching graphing and data analysis; however, some teachers do not use technology for this purpose.)
- Share a common understanding about how technology will be used to enhance learning, and there are clear expectations that technology will be used in these ways. (For example, your earth science curriculum guide identifies spreadsheets as the adopted way of teaching graphing and data analysis, and every earth science teacher

Response Percent Response Total

35.2% 19

59.3% 32

5.6% 3

Survey Online Report

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uses technology for this purpose.)

Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.



Which of the following strategies has your school employed for addressing students' technology literacy; (Check all that apply)

My school has identified specific skills (e.g., using technology to collaborate effectively with peers) that students must have

in order to be technologically competent.

My school has a specific program or plan for helping students become technologically literate (e.g., responsibilities are

officially assigned to subject areas for covering different technology skills, or students take stand-alone courses to build technology literacy).

Technology literacy is assessed formally at some point during a student's tenure in my school.

Response Percent Response Total

60.9% 28

26.1% 12

15.2% 7

Total # of respondents 55. Statistics based on 46 respondents 0 filtered; 9 skipped.



Which technologies do you require students to use for your classes? (Check all that apply)

Word processing/document processing

Spreadsheets (for data analysis and management)

Other data analysis software (e.g. SPSS, Mathematical)

Database software (e.g. Microsoft Access, Filemaker Pro, Blist)

Email

Other Internet communication tools (e.g. listservs or automatic mailing lists, "chat," discussion boards)

Presentation software (e.g. PowerPoint, Keynote)

Other multimedia authoring software (e.g. Hyperstudio, Macromedia Director)

Graphic editing and manipulation software (e.g. Adobe Photoshop, Illustrator)

Video editing technology

Graphic peripherals (e.g. scanners, digital cameras)

Web browsers - Basic functions and efficiency (e.g., book-marking, using "back" or "home" features)

Electronic information sources (e.g. World Book, Searchosaurus, D.E. Streaming)

Other professional databases (e.g. ERIC, SIRS, EBSCO)

Response Percent Response Total

89.6% 43

20.8% 10

4.2% 2

6.2% 3

25% 12

12.5% 6

41.7% 20

4.2% 2

12.5% 6

10.4% 5

8.3% 4

35.4% 17

39.6% 19

22.9% 11

Technologies specific to
your field (e.g.,
probeware in the
sciences, geographic
information systems in
the social sciences)
Web 2.0 Tools (e.g.
wikis, blogs, podcasts)

14.6% 2

14.6% 2

Total # of respondents 55. Statistics based on 48 respondents 0 filtered; 7 skipped.

Which technologies do you explicitly teach students to use?
(Check all that apply)

Word processing/document processing 78.8% 26

Spreadsheets (for data analysis and management) 24.2% 8

Other data analysis software (e.g. SPSS, Mathematical) 6.1% 2

Database software (e.g. Microsoft Access, Filemaker Pro, Blist) 12.1% 4

Email 9.1% 3

Other Internet communication tools (e.g. listservs or automatic mailing lists, "chat," discussion boards) 9.1% 3

Presentation software (e.g. PowerPoint, Keynote) 36.4% 12

Other multimedia authoring software (e.g. Hyperstudio, Macromedia Director) 6.1% 2

Graphic editing and manipulation software (e.g. Adobe Photoshop, Illustrator) 9.1% 3

Video editing technology 6.1% 2

Graphic peripherals (e.g. scanners, digital cameras) 12.1% 4

Web browsers - Basic functions and efficiency (e.g., book-marking, using "back" or "home" features) 33.3% 11

Electronic information sources (e.g. World Book, Searchosaurus, D.E. Streaming) 18.2% 6

Other professional databases (e.g. ERIC, SIRS, EBSCO) 12.1% 4

Technologies specific to your field (e.g., probeware in the sciences, geographic information systems in the social sciences) 12.1% 4

Web 2.0 Tools (e.g. wikis, blogs, podcasts) 12.1% 4

Total # of respondents 55. Statistics based on 33 respondents 0 filtered; 22 skipped.

For which technologies do you explicitly assess student proficiency?
(Check all that apply)

Word processing/document processing 70% 14

Spreadsheets (for data analysis and management) 25% 5

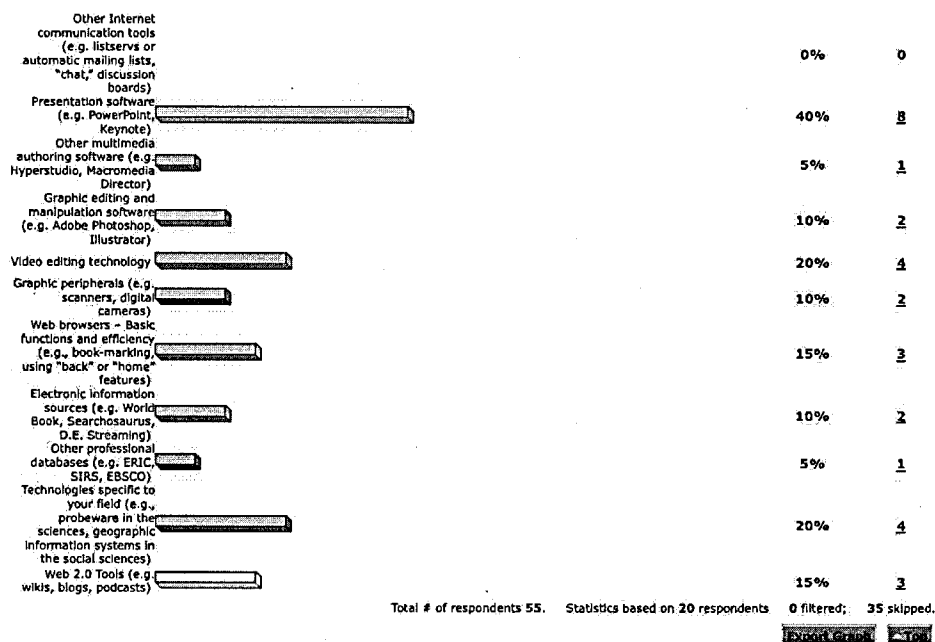
Other data analysis software (e.g. SPSS, Mathematical) 5% 1

Database software (e.g. Microsoft Access, Filemaker Pro, Blist) 10% 2

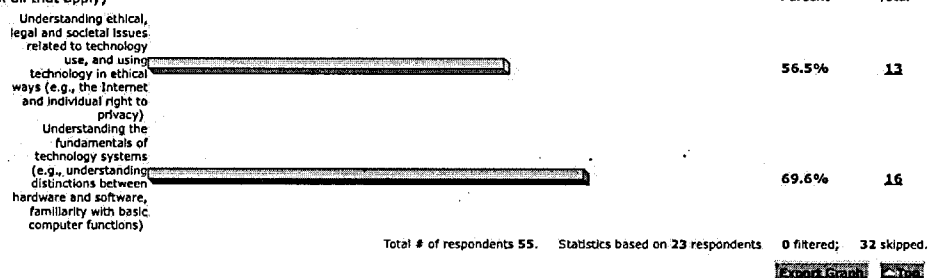
Email 20% 4

Response Percent Response Total

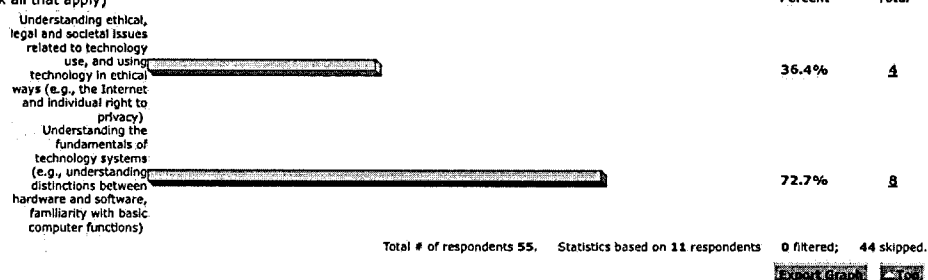
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I explicitly design class content or assignments to build this skill in students.
(Check all that apply)



I explicitly assess whether students are proficient in this skill.
(Check all that apply)



How prepared do you feel to manage technology-supported learning with your class(es)?
(Select one)

I have a variety of classroom management and organizational strategies for using technology. I know I can smoothly orchestrate technology-supported learning activities in a variety of settings and ways (whole class, small group, centers in labs or the classroom).
I have some classroom management and organizational strategies, but think I need more.
I have very few classroom management and organizational strategies for using technology

Response
Percent

Response
Total

11.3%

6

39.6%

21

49.1%

26

Total # of respondents 55. Statistics based on 53 respondents 0 filtered; 2 skipped.

"Best practices with technology" are technology-supported teaching practices that either have a basis in educational theory or are supported by research.

How are best practices with technology identified and shared at your school?
(Select one)

Our school has a formal process for identifying best practices and then ensuring that every classroom teacher learns of those practices (as appropriate to their teaching assignment). Best practices are identified and shared informally. For example, an enthusiastic teacher finds an innovative practice, and sharing happens either informally or at staff meetings. A number of teachers eventually learn about these practices. Best practices are not typically identified or shared at my school.

Response
Percent

Response
Total

3.9%

2

66.7%

24

29.4%

15

Total # of respondents 55. Statistics based on 51 respondents 0 filtered; 4 skipped.

At your school, how frequently are teachers exposed to innovations and best practice in teaching with technology?
(Select one)

On an ongoing basis

Occasionally

Almost never

Response
Percent

Response
Total

10.9%

6

65.5%

26

23.6%

13

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

Which best describes your skill level with each of the following technologies:

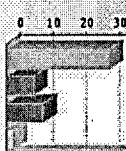
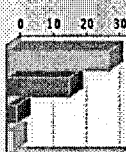
No Skill	Novice	Intermediate	Highly Skilled	No Skill	Novice	Intermediate	Highly Skilled	Response Total

Word processing/document processing	1.8% (1)	7.3% (4)	47.3% (26)	43.6% (24)	<p>A 3D bar chart with four bars of increasing height from left to right, corresponding to the percentages 1.8%, 7.3%, 47.3%, and 43.6%. The x-axis is labeled 0, 10, 20.</p>	55
Spreadsheets (for data analysis and management)	9.1% (5)	45.5% (25)	27.3% (15)	18.2% (10)	<p>A 3D bar chart with four bars of increasing height from left to right, corresponding to the percentages 9.1%, 45.5%, 27.3%, and 18.2%. The x-axis is labeled 0, 10, 20.</p>	55
Other data analysis software (e.g., SPSS, Mathematica)	75.5% (40)	13.2% (7)	9.4% (5)	1.9% (1)	<p>A 3D bar chart with four bars of decreasing height from left to right, corresponding to the percentages 75.5%, 13.2%, 9.4%, and 1.9%. The x-axis is labeled 0, 10, 20, 30, 40.</p>	53
Database software (e.g., Microsoft Access, Filemaker Pro, Blist)	70.4% (38)	16.7% (9)	7.4% (4)	5.6% (3)	<p>A 3D bar chart with four bars of decreasing height from left to right, corresponding to the percentages 70.4%, 16.7%, 7.4%, and 5.6%. The x-axis is labeled 0, 10, 20, 30.</p>	54
Email	3.8% (2)	5.7% (3)	34% (18)	56.6% (30)	<p>A 3D bar chart with four bars of increasing height from left to right, corresponding to the percentages 3.8%, 5.7%, 34%, and 56.6%. The x-axis is labeled 0, 10, 20, 30.</p>	53
Other Internet communication tools (e.g., listservs or automatic mailing lists, "chat," discussion boards)	40% (22)	32.7% (18)	23.6% (13)	3.6% (2)	<p>A 3D bar chart with four bars of decreasing height from left to right, corresponding to the percentages 40%, 32.7%, 23.6%, and 3.6%. The x-axis is labeled 0, 5, 10, 15, 20.</p>	55
Presentation software (e.g., PowerPoint, Keynote)	32.7% (18)	38.2% (21)	18.2% (10)	10.9% (6)	<p>A 3D bar chart with four bars of decreasing height from left to right, corresponding to the percentages 32.7%, 38.2%, 18.2%, and 10.9%. The x-axis is labeled 0, 5, 10, 15, 20.</p>	55

Other multimedia authoring software (e.g. Hyperstudio, Macromedia Director)	72.2% (39)	18.5% (10)	3.7% (2)	5.6% (3)		54
Graphic editing and manipulation software (e.g. Adobe Photoshop, Illustrator)	56.4% (31)	29.1% (16)	10.9% (6)	3.6% (2)		55
Video editing technology	61.8% (34)	23.6% (13)	7.3% (4)	7.3% (4)		55
Graphic peripherals (e.g. scanners, digital cameras)	30.9% (17)	36.4% (20)	20% (11)	12.7% (7)		55
Web browsers – Basic functions and efficiency (e.g., book-marking, using "back" or "home" features)	21.8% (12)	10.9% (6)	41.8% (23)	25.5% (14)		55
Electronic Information sources (e.g. World Book, Searchosaurus, D.E. Streaming)	23.6% (13)	30.9% (17)	38.2% (21)	7.3% (4)		55
Other professional databases (e.g. ERIC, SIRS, EBSCO)	40% (22)	30.9% (17)	23.6% (13)	5.5% (3)		55

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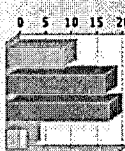
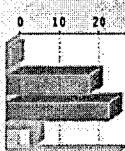
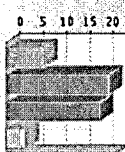
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Technologies specific to your field (e.g., probeware in the sciences, geographic information systems in the social sciences)	59.6% (31)	15.4% (8)	21.2% (11)	3.8% (2)		52
Web 2.0 Tools (e.g., wikis, blogs, podcasts)	56.4% (31)	34.5% (19)	5.5% (3)	3.6% (2)		55

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

IMPORTANT: Questions 32 through 35 describe various aspects of using technology for teaching, assessment, or professional development. Many of the approaches or strategies described are high-level, and in some cases, teachers simply do not have the resources or training to implement them. The questions are intended to track progress as technology access and professional development change over the next few years. Please indicate your level of agreement with the following statements.

Planning Technology-Supported Instruction:

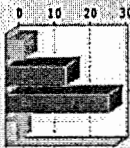
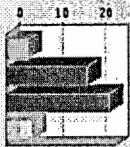
	4) Strongly Agree	3) Agree	2) Disagree	1) Strongly Disagree	4) Strongly Agree 3) Agree 2) Disagree 1) Strongly Disagree	Response Total
When designing my lessons, I regularly think about whether technology could enhance my teaching or student learning.	20.4% (11)	35.2% (19)	37% (20)	7.4% (4)		54
When selecting education technologies, I refer to and base my selections on current research on their effectiveness.	1.9% (1)	38.9% (21)	48.1% (26)	11.1% (6)		54
I am comfortable planning for class sessions that involve students using technology during instruction.	14.8% (8)	40.7% (22)	37% (20)	7.4% (4)		54

Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

Executing Technology-Supported Instruction

Survey Online Report

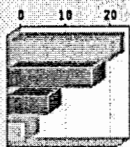
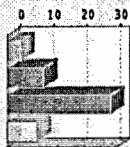
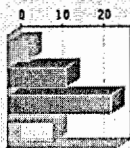
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	View	4) Strongly Agree	3) Agree	2) Disagree	1) Strongly Disagree	4) Strongly Agree <input type="checkbox"/> 3) Agree <input type="checkbox"/> 2) Disagree <input type="checkbox"/> 1) Strongly Disagree <input type="checkbox"/>	Response Total
I regularly use technology to enhance learning in my classroom.		9.3% (5)	31.5% (17)	53.7% (29)	5.6% (3)		54
I have classroom management and organizational strategies for using technology; I can smoothly orchestrate learning activities when my students use technology.		9.3% (5)	35.2% (19)	44.4% (24)	11.1% (6)		54

Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

[Top](#)

Technology and Assessment:

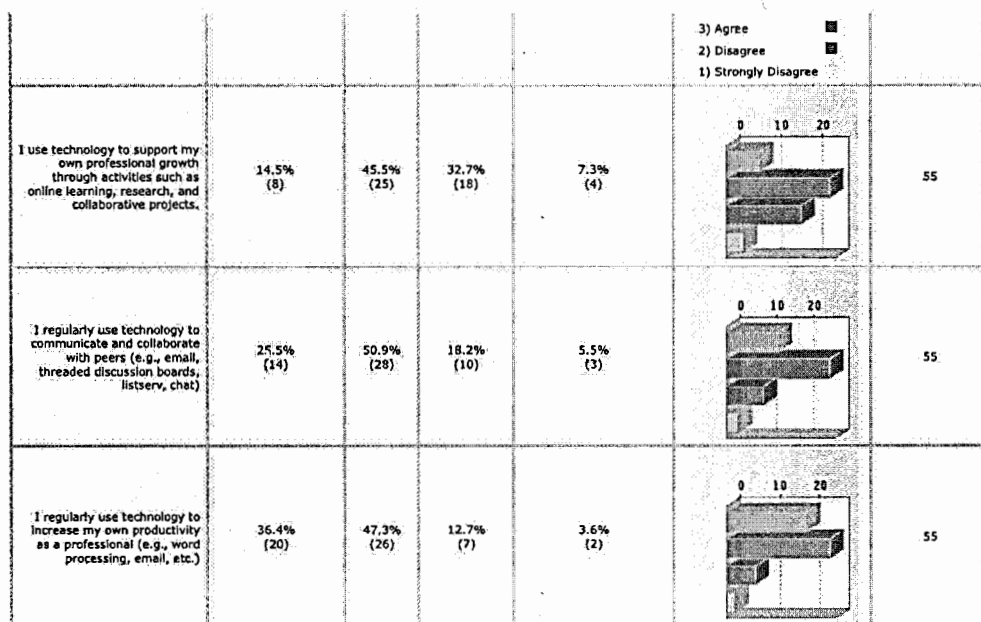
	View	4) Strongly Agree	3) Agree	2) Disagree	1) Strongly Disagree	4) Strongly Agree <input type="checkbox"/> 3) Agree <input type="checkbox"/> 2) Disagree <input type="checkbox"/> 1) Strongly Disagree <input type="checkbox"/>	Response Total
I use technology to help me manage student assessment data (e.g., using electronic gradebooks)		41.8% (23)	34.5% (19)	16.4% (9)	7.3% (4)		55
I have effective strategies for assessing the content of students' technology-supported work (e.g., assessing student work when the product includes research from several online sources, or when the product is a Web page or digital video rather than the traditional essay)		7.3% (4)	20% (11)	56.4% (31)	16.4% (9)		55
I am comfortable using technology to help me gather, analyze, and interpret data on student progress (e.g., by graphing trends in achievement, using hand-held computers to collect data on students as they are learning).		9.1% (5)	25.5% (14)	45.5% (25)	20% (11)		55

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

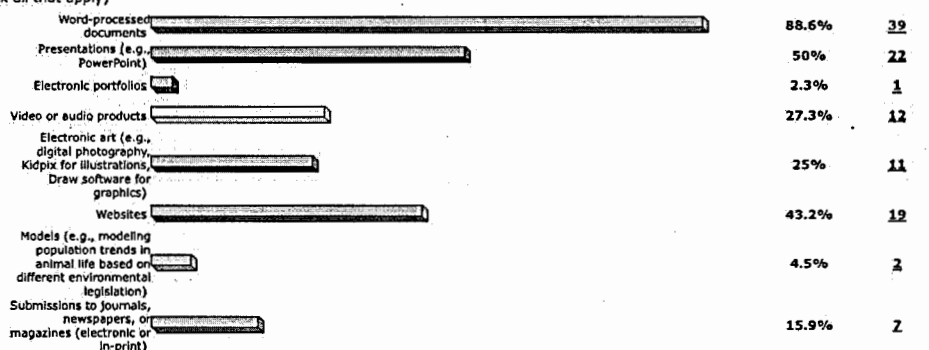
[Top](#)

Technology For My Professional Use:

	View	4) Strongly Agree	3) Agree	2) Disagree	1) Strongly Disagree	4) Strongly Agree <input type="checkbox"/> 3) Agree <input type="checkbox"/> 2) Disagree <input type="checkbox"/> 1) Strongly Disagree <input type="checkbox"/>	Response Total
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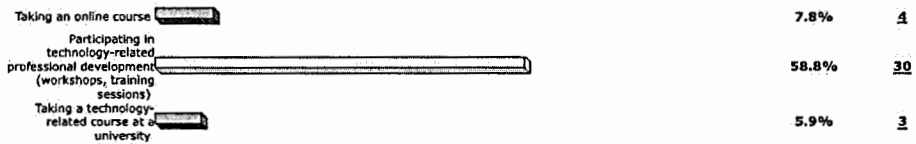
During this school year, which of the following products do (or will) students in your classes use to demonstrate their learning?
(Check all that apply)



Which of the following are you currently doing (or have you done) during this school year?
(Check all that apply)



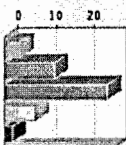
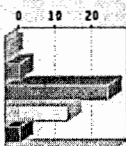
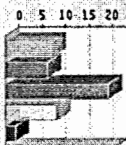
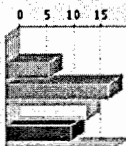
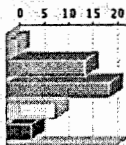
Survey Online Report

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Total # of respondents 55. Statistics based on 51 respondents. 0 filtered; 4 skipped.

Rate your access to the following items while at school:

	Non-Existent	Very Poor/Barely Adequate	Adequate or Pretty Good	Good	Excellent	<div> <div>Non-Existent</div> <div>Very Poor/Barely Adequate</div> <div>Adequate or Pretty Good</div> <div>Good</div> <div>Excellent</div> </div>	Response Total
The type of equipment I want to use with my students for planning lessons or for professional development (e.g., cameras, scanners)	0% (0)	37% (20)	42.6% (23)	16.7% (9)	3.7% (2)		54
Sufficient numbers of computers and other equipment (e.g., cameras, printers) so I can implement technology-supported learning opportunities as I want to	1.9% (1)	38.9% (21)	33.3% (18)	16.7% (9)	9.3% (5)		54
Computers and other equipment where I need them (e.g., in my classroom; in a science lab)	1.9% (1)	35.2% (19)	42.6% (23)	13% (7)	7.4% (4)		54
Reliability of computers, printers, projectors, and other equipment (i.e., it works when I need it)	0% (0)	25.9% (14)	42.6% (23)	22.2% (12)	9.3% (5)		54
Reliable, high-speed access to the Internet in classrooms, labs, and media centers	0% (0)	20.4% (11)	38.9% (21)	27.8% (15)	13% (7)		54

Software, appropriate for my content area and the age of my students, that I want to use with class(es)	7.4% (4)	24.1% (13)	50% (27)	14.8% (8)	3.7% (2)		54
Technology tools for my own productivity (e.g., electronic gradebooks, word processing, presentation software)	1.9% (1)	7.4% (4)	51.9% (28)	31.5% (17)	7.4% (4)		54
Distance Learning Opportunities (e.g., online courses or professional development offered through video-conferencing)	18.5% (10)	16.7% (9)	40.7% (22)	20.4% (11)	3.7% (2)		54
Technical support with little or no wait-time	0% (0)	14.8% (8)	35.2% (19)	27.8% (15)	22.2% (12)		54
Instructional support that helps me to integrate technology	3.7% (2)	29.6% (16)	38.9% (21)	18.5% (10)	9.3% (5)		54


Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

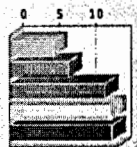
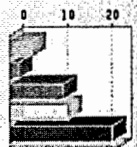
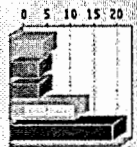
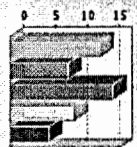
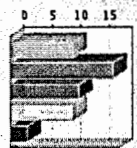
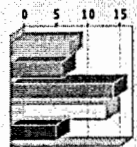
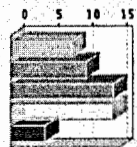


Rate your access to the following items while outside of school:

By relatively new computer, we mean computers that are:

- Less than 5 years old
- Run MAC OS X, 2000/Windows XP, or Vista

	Non-Existent	Very Poor/Barely Adequate	Adequate or Pretty Good	Good	Excellent	Non-Existent	Very Poor/Barely Adequate	Adequate or Pretty Good	Good	Excellent	Response Total
											

A relatively new computer	10.9% (6)	14.5% (8)	23.6% (13)	25.5% (14)	25.5% (14)		55
Internet access	9.1% (5)	3.6% (2)	21.8% (12)	23.6% (13)	41.8% (23)		55
High-speed Internet access (DSL or cable)	12.7% (7)	10.9% (6)	10.9% (6)	25.5% (14)	40% (22)		55
Access to school servers	25.5% (14)	16.4% (9)	29.1% (16)	18.2% (10)	10.9% (6)		55
Software, appropriate to my content area and the age of my students, that I want to use with my class(es)	20% (11)	32.7% (18)	21.8% (12)	20% (11)	5.5% (3)		55
Technology tools for my own productivity (e.g., electronic gradebooks, word processing, presentation software)	16.4% (9)	14.5% (8)	29.1% (16)	27.3% (15)	12.7% (7)		55
Distance Learning Opportunities (e.g., online courses)	16.4% (9)	20% (11)	27.3% (15)	27.3% (15)	9.1% (5)		55

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.



Rate your students' access to the items below while outside of school:

(Take your best guess at students' access outside of school and mark "Don't Know" only if you have absolutely no idea)

	Don't Know	Non-Existent	Very Poor/Barely Adequate	Adequate or Pretty Good	Good	Excellent	Don't Know Non-Existent Very Poor/Barely Adequate Adequate or Pretty Good Good Excellent	Response Total
A relatively new computer	34.5% (19)	0% (0)	9.1% (5)	38.2% (21)	16.4% (9)	1.8% (1)		55
Internet access	25.5% (14)	0% (0)	1.8% (1)	50.9% (28)	21.8% (12)	0% (0)		55
High-speed Internet access (DSL or cable)	41.8% (23)	1.8% (1)	12.7% (7)	30.9% (17)	12.7% (7)	0% (0)		55
Access to school servers	43.6% (24)	7.3% (4)	10.9% (6)	29.1% (16)	9.1% (5)	0% (0)		55
Access to software I use for my classes	45.5% (25)	9.1% (5)	14.5% (8)	25.5% (14)	5.5% (3)	0% (0)		55
Distance Learning Opportunities (e.g., online courses)	49.1% (27)	7.3% (4)	9.1% (5)	25.5% (14)	9.1% (5)	0% (0)		55

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

Do all schools in your district that are the same grade level (e.g., all elementary schools) have approximately the same level of access to equipment and software? Examples of Equipment and software include access to up-to-date computers in the classroom, scheduled time in computer labs, etc.



Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

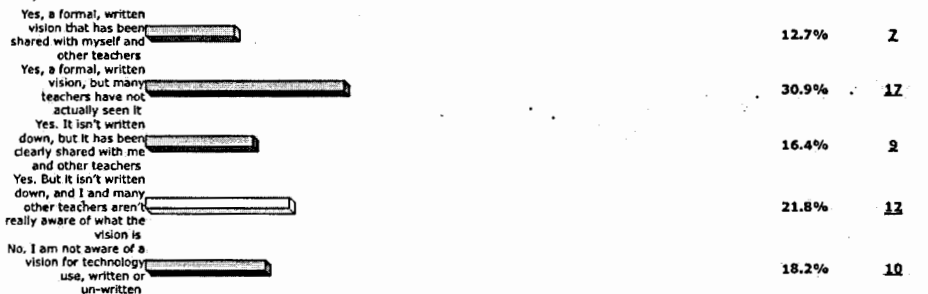
Do all schools in your district that are the same grade level (e.g., all elementary schools) have approximately the same level of access to a wide variety of technology uses? Examples of A wide variety of technology uses include using technology for creating presentations, doing research, publishing online, and other purposes versus using technology only for drill and practice or word-processing.



Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

Does your school or district have a vision for how technology should be used by students and by teachers to improve teaching and learning?

(Select one)



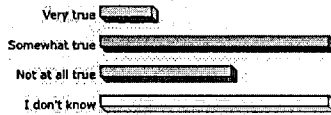
Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

Our academic learning standards or content standards include 21st Century Skills like technology literacy, financial literacy, health literacy, and employability skills.



Total # of respondents 55. Statistics based on 54 respondents 0 filtered; 1 skipped.

When teachers design curriculum and plan instruction, this district requires that they consider 21st Century Skills like technology literacy, financial literacy, health literacy, and employability skills.



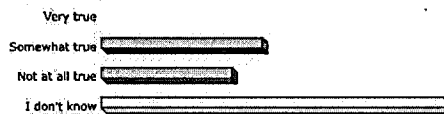
Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

In this district, we have assessments that measure students' technology literacy.



Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

In this district, we have assessments that measure 21st Century Skills like technology literacy, financial literacy, health literacy, and employability skills.

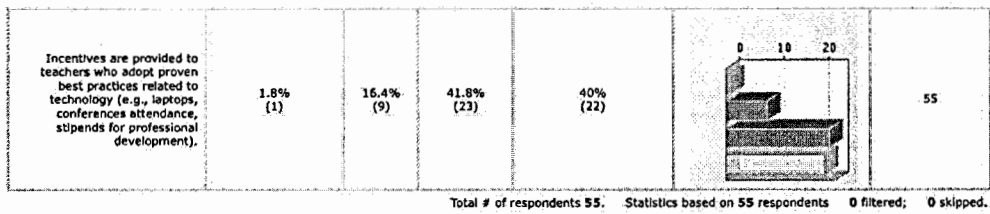


Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

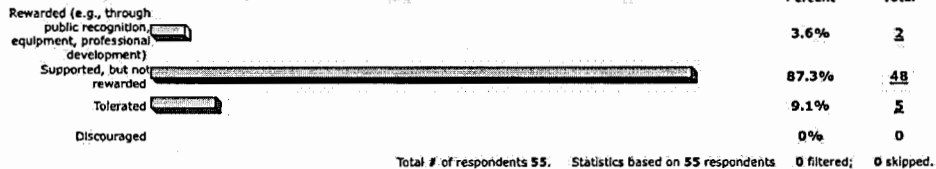
IMPORTANT: Questions 49 - 51 ask about technology-related policies, training, and incentives in your school or district. Teachers sometimes have difficulty responding candidly if they feel that they are being "disloyal" to their school. However, it is understood that some of the issues addressed in the questions are limited by budgets, funding requirements, or state/federal policies, and may not be in control of school leadership. Please respond to each item as honestly as you can.

Rate your agreement with the following statements. In my school:

	4) Strongly Agree	3) Agree	2) Disagree	1) Strongly Disagree	4) Strongly Agree 3) Agree 2) Disagree 1) Strongly Disagree	Response Total
Practices identified as research-based or "proven" - including lesson plans and curricula - are posted online so that they are accessible by all teachers.	3.7% (2)	18.5% (10)	50% (27)	27.8% (15)		54

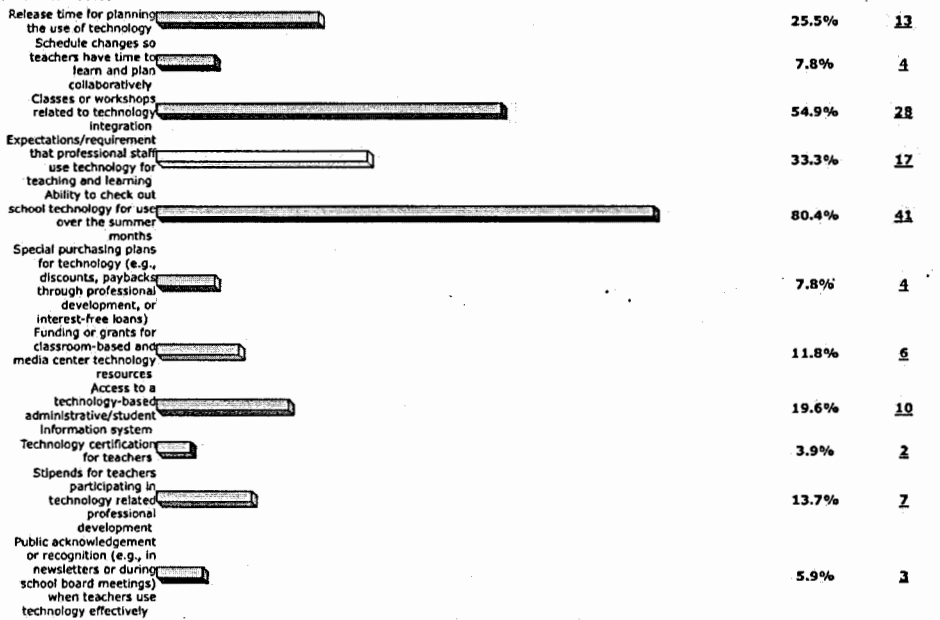


To what extent does your school encourage innovative teaching practices? Innovation is generally:



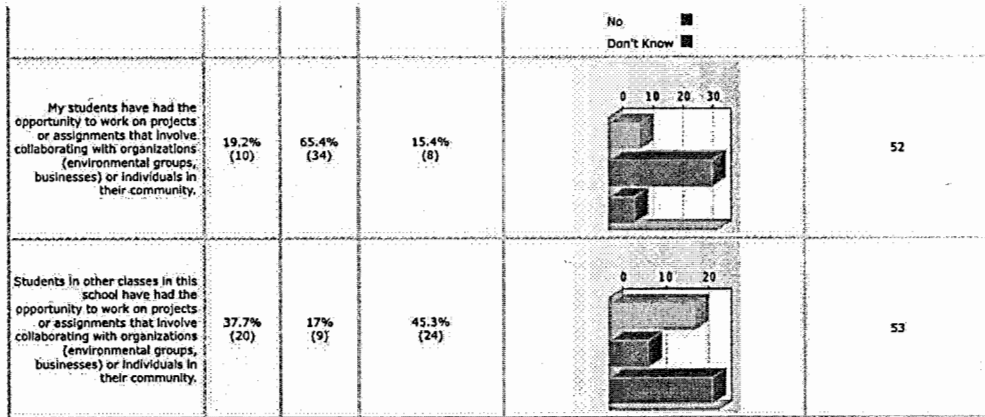
Which of the following incentives are provided by your school/district to encourage teachers to use learning technology?

(Check all that apply)

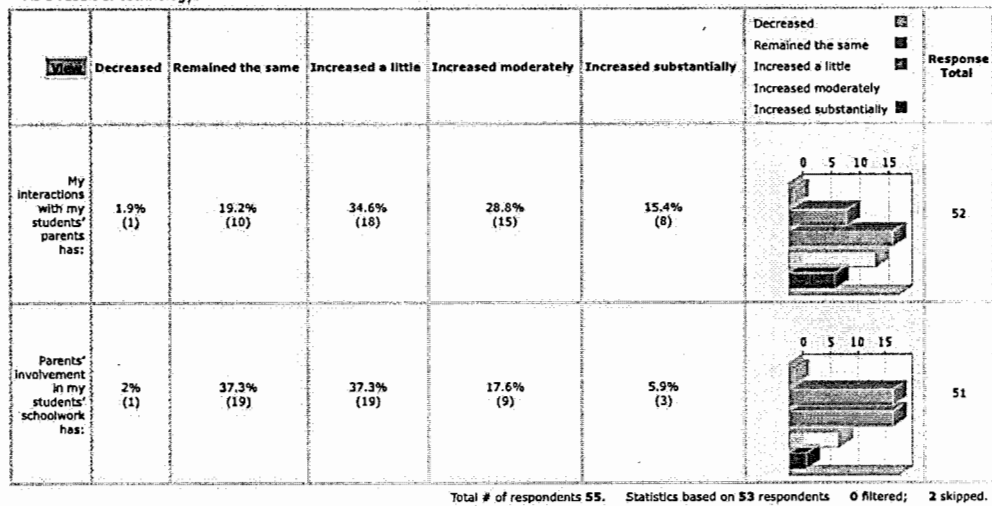


During this school year:





As a result of technology:



In the last two school years, have you participated in school or district-offered professional development that was in any way related to technology use?

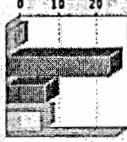
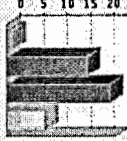

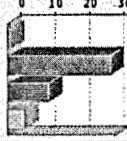
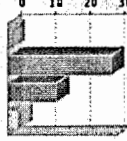
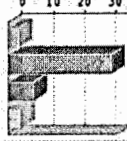
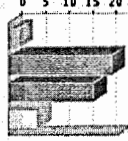


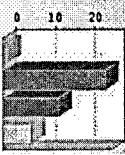
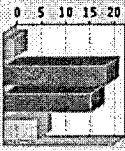

Total # of respondents 55. Statistics based on 55 respondents 0 filtered; 0 skipped.

[Export Graph](#) [Top](#)

How true is each statement below about the professional development experiences offered by your district or school? Base your responses on your experiences over the last two school years.

Professional development offered by my school or district:

	Very True	Somewhat true	Not at all true	I don't know	Very True Somewhat true Not at all true I don't know	Response Total
Prepares teachers to discuss specific research or theory upon which the professional development is based.	4.2% (2)	56.2% (27)	20.8% (10)	18.8% (9)		48
Prepares teachers to assess student work produced with technology (e.g., when students produce a research report using a variety of online resources).	2.1% (1)	35.4% (17)	45.8% (22)	16.7% (8)		48
Includes opportunities for teachers to see actual examples of technology applied to learning in classrooms similar to their own.	4.2% (2)	66.7% (32)	18.8% (9)	10.4% (5)		48
Allows teachers to practice skills acquired during professional development in real or simulated classroom settings.	2.1% (1)	62.5% (30)	25% (12)	10.4% (5)		48
Includes time for teachers to work together, and to discuss and plan for using technology in the classroom.	2.1% (1)	62.5% (30)	29.2% (14)	6.2% (3)		48
Is flexible enough to change direction or focus, depending on teachers' needs and interests.	6.2% (3)	68.8% (33)	16.7% (8)	8.3% (4)		48
Explicitly shows participants how specific technology uses are related to standards and school improvement goals.	4.2% (2)	45.8% (22)	37.5% (18)	12.5% (6)		48

Takes into account the resources, equipment, and support available to teachers, and makes certain in advance that the uses of technology covered during training can be implemented in the classroom.	2.1% (1)	54.2% (26)	29.2% (14)	14.6% (7)		48
Includes strategies for getting "behind the classroom door" that require teachers to observe and be observed by other teachers.	4.2% (2)	43.8% (21)	37.5% (18)	14.6% (7)		48
Tracks teachers as they gain skills, and provides opportunities for even the most advanced integrators of technology to enhance their skills.	2.1% (1)	31.2% (15)	47.9% (23)	18.8% (9)		48

Total # of respondents 55. Statistics based on 48 respondents 0 filtered; 7 skipped.



Appendix F
Individual Teacher Professional Development Plan

Name of teacher: _____

Name of evaluator: _____

Date plan was developed: _____

Teacher's Signature: _____

Date of Approval: _____

Evaluator's Signature: _____

Date of Approval: _____

Measurable Goal:

1. Describe how this goal helps the teacher to meet the goal(s) of the district's CSIP.

2. Identify the data used to identify the need and resulting goal(s):

3. Describe the professional development training and learning opportunities included to support the teacher in accomplishing establish goals:

4. How does this goal along with the training and learning opportunities align with the Iowa Teaching Standards and criteria? Which of the teaching standards and criteria will be the focus of this plan?

List the indicators that will be used to document the accomplishment of this goal.

Identify Resources

Name: _____

[illegible]

Meet Your New MacBook!

2-26-09

Today you are receiving your new MacBook computer. Here are some things you should know about it.

The Log In Screen

You will be asked to log in at startup. The log in screen has three accounts listed: Administrator, Guest, and *Your Name*. You will log in under your name with your server password.

Guest Account

There is a Guest account listed on the log in screen. No password is required for this account. Guests may use the computer to create documents but if they save documents to the computer, the documents will disappear when they log out. The only places a Guest may save without that happening are to the server, a flash drive, or a web site such as Google Docs.

Battery

To prevent the battery from developing a memory, please allow the battery to completely drain down (until the computer goes to sleep) at least five times. Don't plug in the laptop as a general rule but allow it to use the battery.

Location

When you take the computer from site to site, you will need to change locations to access the wireless network. There are already location settings entered for the Dike and New Hartford campuses. An Automatic setting is available for other locations. You may add other locations such as your home, if you wish, by going to the Network settings in System Preferences. To change the locations quickly, go to the Apple in the upper left corner, scroll down to Locations.

Printers

Printers set up for each location (Dike Elementary, High School, New Hartford). Not ALL the printers are listed at each location. If the printer you want to use is not listed, please check with a tech person.

Screen Cleaning Cloth

You should find a screen cleaning cloth inside a pocket in your computer case. Try to avoid touching the screen with your fingers as they will leave fingerprints.

Software

The following software has been installed on your computer in addition to the software that came with your computer pre-installed:

Adobe Reader 9 (for reading pdf's)

JMC (URL for your site will need to be entered the first time you use it.)

DE: <http://dnh.dikenh.k12.ia.us/cgi-bin/DNHELJMC/JMC0809.cgi>

NHE: <http://dnh.dikenh.k12.ia.us/cgi-bin/NHDELJMC/JMC0809.cgi>

Microsoft Office 2008 (Entourage is set as your email client. You will have to enter your email password the first time you use it.)

Appleworks 6.2.9

Toast Titanium 7 (you can use this for burning CD's)

Lacie Lightscribe Installer (for making CD labels, will need to be installed the first time you use it)

Silverlight 2 (necessary for some web site viewing)

Google Earth (Tour the Earth with satellite imagery)

Firefox 3

Picasa (not to be confused with Picasa Web Albums, this program is a stand-alone photo editing program)

Picasa Web Albums Uploader (a stand-alone program for uploading multiple photos to Picasa Web Albums)

Skype (VIDEO PHONE CALLS! Also audio and chat)

Highlight (allows you to DRAW on your screen like a white-board, good for presentations and handouts; keyboard commands are at the end of this document)

Highlighter (makes a red circle around the arrow on your screen to call attention to it, good for presentations)

XMeeting (for video conferencing)

Silverkeeper Installer (for backing up your computer, will need to be installed the first time you use it)

The applications above will all be found in the Applications folder. Shortcut icons for most of them are in the dock.

Some of the additional applications that came pre-installed on the computer include:

Garageband

iTunes

iPhoto

iMovie

iDVD

iWeb

Photo Booth (use with the MacBook's integrated camera)

Spaces (divides your screen into four sections)

DVD Player

Time Machine (for backing up your computer to an external hard drive)

Safari (web browser)

iCal (calendar)

Address Book

Calculator

Front Row (for viewing videos)

Chess

Keyboard Shortcuts

Apple-Shift-3	Take a picture of the screen (saved to desktop as Picture 1, Picture 2, etc.)
Apple-Shift-4	Take a picture of the selection
Option-Apple-esc	Force Quit
Control-Eject	Restart, Sleep, Shutdown dialog box
Control-Apple-Eject	Quit all applications and restart
Option-Apple-Eject or Option-Apple-Power	Sleep
Option-Apple-D	Show or hide the dock
Control-Option-Apple-Eject	Shut down

Instructions for Highlight (Presentation Tool for Drawing on the Screen)

Key Commands

- Shift toggles the rectangle drawing tool
- Option toggles the oval drawing tool
- Ctrl toggles the line drawing tool
- Ctrl+shift toggles the grid lines (vertical or horizontal only)
- Delete removes the last shape
- Apple K will clear all shapes
- Apple J will toggle the application on/off

**DIKE NEW HARTFORD COMMUNITY SCHOOLS
STAFF DEVELOPMENT SCHEDULE
2008-2009**

DATE	DIKE/NH ELEMENTARIES	JR. HIGH/HIGH SCHOOL
8/18 Early Dismissal	Collaboration Setup	*Establish Collaboration Partners/Mentoring Groups/Collaboration
9/10 Early Dismissal	Write ITPDP/Collaboration	*Write ITPDP/Collaboration
10/13 All Day	R4/Motivation	R4 Training
11/14 All Day	LA Curriculum/AR	*Quadrant D Work/Collaboration New Program Analysis/Mentoring
12/3 Early Dismissal	Collaboration	*Reading Strategies/Collaboration
1/9 All Day	R4/Math	Data Analysis/Reporting Out Prep
1/28 Early Dismissal	Collaboration	Quadrant D Work Sharing Out (Lessons)
2/20 All Day	R4/Math	R4 Training
2/25 Early Dismissal	Collaboration	*Collaboration/Reading Strategies
4/10 All Day	Data Analysis	*Visitations (Reporting Out)/Quadrant D Sharing
4/15 Early Dismissal	Collaboration	*Collaboration
5/17 Early Dismissal	Evaluation/Plan for Next Year	*Collaboration/Evaluation/Plan for Next Year

* Indicates Technology Mentoring Program Meeting Times